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COMPUTER SCIENCES CORP HUNTINGDON VALLEY PA
LAMPS SEAS SIMULATION SOFTWARE SUPPORT. APPENDIX I.(U)
JUN 78

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LAMPS SEAS

SIMULATION SOFTWARE SUPPORT

A P P E N D I X I

FINAL REPORT

CDRL ITEM #A004

Task Order No. 55

Contract N62269-75-C-0001



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6 LAMPS SEAS
SIMULATION SOFTWARE SUPPORT.

FINAL REPORT
APPENDIX-I.

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9 Final rept. Sep 77-Jun 78.

Prepared for
NAVAL AIR DEVELOPMENT CENTER
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Appendix I consists of the program listings for the software routines written in support of the LAMPS SEAS Program.		

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APPENDIX I

PROGRAM LISTINGS

78 06 22 018

CONVERTER MULTIPLEXER MODULE

(CMUX)

78 09 25 012


```
C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACFFIME, AZSCNLM, CLUTTER, DELXI, DELYI, DELZI, OLTHIP,
* GRAZANG, IPDSYMB, ICFAR, IFESIS, I30FILE(120), IORDERC(31), IORDERX,
* IPORMDE, IPOSIZE, IRTURN(30), IROSCC, ISEASTE, ITCTN,
* JROB, NPO, PD, PHIR, PCNOISE, PCRNGB, SF(5), SIGMA, SIGMAO,
* XINLSFA(9), YINLSFA(9), XSN, YFPD, XROCNTP, YROCNTP, DCL13, DCL23,
* DCL33, SNPHIR, CSNPHIR, CSXLDZ1, GMLMDAC(21), PANCROS(9)
* , KPRCRCV, TRI2, M3(21), XFA(21), YFA(21), ISIZE, IFAIL(9), FAPNGLM
C-----ESM TABLES
COMMON IEMT(100,3), ITRKFIL(100), ILIR, INTVESM(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON /TCTAVE(4), AKFR, NUMBIN, COSB(16), SINB(16), SIG(16), NOIS(16),
X SIGNAL(16,3,4), COSD(16,3,4), SIND(16,3,4), ANAPR(16,3), FI(P,4),
X AOU, SANGERR, CVRANGE, KPSVTHR,
X IVERN(2,8,4), FRLCG(8,4), ALGAKFR, ALGAKFV, ALGTWC, IFRANC, AKFRV
COMMON // ION, GAMMAS, REFFTP, KVALETP, IDAM(2)
COMMON /HORIZN/ HORLIM
COMMON /CONST/ AMCCNS(16)
COMMON // NIUBUF(10), NIUCRUF(17), NIUTBUF(40),
* MSP1BUF(40), MSPORBUF(17), MSP1BUF(40)
* , MADDISP(2), IDSPACU(4), MUX1BUF(50), MUXORBUF(17)
* , MUXABUF(256), MUX1BUF(40), KATORUF(1024), KSCORUF(1024)
* , NIUBIT, MSPBIT, MUXBIT(2)
* , TACRANG, TACREAP, ITACVAL, STRATO(2), STKS0(2)
COMMON /COMCMUX/ ERUFCT, EHD=1,PD
COMMON /COMCMUX/ IPRCIAT, TELCCCR, RESETTP, HSIN(4)
* , HCOS(4), MMSGOAT(256), KMMSG
* , KSLFIST
COMMON /BUFFLAG/ I9FUL1(13), I9FUL2(13)
COMMON /ERRFLAG/ I9FRERR(3)
C-----
C INITIALIZE BUFFERS, FLAGS, ETC.
C-----
C ZERO THE MUX INPUT BUFFER
C DOWNHILE INPUT BUFFER NOT INITIALIZED
DO 10 K=1,40
C INSERT ZERO VALUE
MUX1BUF(K) = 0
10 CONTINUE
C ENDDO
C ZERO THE ATO, SO DISPLAY BUFFERS
C DOWNHILE DISPLAY BUFFER NOT INITIALIZED
DO 20 K=1,1024
C INSERT ZERO VALUE
KSORUF(K) = 0
KATORUF(K) = 0
20 CONTINUE
C ENDDO
C ZERO THE MUX ALTERNATE INPUT BUFFER
C DOWNHILE ALTERNATE BUFFER NOT INITIALIZED
DO 30 K=1,256
C INSERT ZERO VALUE
MUXARUF(K) = 0
30 CONTINUE
C ENDDO
```

```

C ZERO THE DATA TRANSFER HOLDING BUFFER
C COUNTIL HOLDING BUFFER EXHAUSTED
DO 40 K=1,255
  INSERT ZERO WORD
  MMSGNAT(K) = 0
115
C 40 CONTINUE
C ENODO
C NO INITIAL FAULTS
  MUXBIT(1) = 0
  MUXBIT(2) = 0
C ZERO MAD, ACOUSTICS DISPLAY WORDS
  MADDISP(1) = MADDISP(2) = MADDISP(3) = 0
  IDSPACU(1) = IDSPACU(2) = IDSPACU(3) = IDSPACU(4) = 0
C ALTITUDE = 512 FEET
  HELO(15) = -512.0
C DUMMY UP PITCH/ROLL SINE/COSINE
  HELO(5) = 0.49999
  HELO(6) = -0.49999
  HELO(8) = 0.0125
  HELO(9) = -0.99999
C GAMMAS = 511
  GAMMAS = 511.0
C TACRANG = 5.13 NMI
  TACRANG = 5.13
C INDICATED AIRSPEED = 37.5 KNOTS
  HELO(21) = 37.5 * (6080.0/3600.0)
C VALID BEARING = 225 DEGREES
  IYACVAL = 1
  TACRANG = 225.0
C ATO STICK VOLTAGES - X=4.992, Y=2.496
  STKATO(1) = 4.992
  STKATO(2) = 2.496
C SO STICK VOLTAGES - X=1.248, Y=0.624
  STKSO(1) = 1.248
  STKSC(2) = 0.624
C ZERO DATA AVAILABLE WORDS
  IDAW(1) = IDAW(2) = 0
C ALLOW PRINTING INFORMATIVE MESSAGES
  PRINTON = .TRUE.
150
C-----
C RESPONSE TO NO COMMANDS
C-----
  PRINT 100
  100 FORMAT(*,*,10(*-*),* RESPONSE TO NO COMMANDS *,10(*-*))
  CALL XCMUX
155
C-----
C SELF-TEST SEQUENCE
C-----
  PRINT 200
  200 FORMAT(*,*,10(*-*),* SELF-TEST SEQUENCE *,10(*-*))
C 1. INITIATE SELF-TEST MODE/DISCRETE
  MUXIRUF(1) = 540039
  CALL XCMUX
C 2. IDLE PERIOD
  PRINTON = .FALSE.
165

```

MUXC 47
 MUXC 48
 MUXC 49
 MUXC 50
 MUXC 51
 MUXC 52
 MUXC 53
 MUXC 54
 MUXC 55
 MUXC 56
 MUXC 57
 MUXC 58
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 MUXC 91
 MUXC 92
 MUXC 93
 MUXC 94
 MUXC 95
 MUXC 96
 MUXC 97
 MUXC 98
 MUXC 99
 MUXC 100
 MUXC 101

PROGRAM MUXDRIV

```

170      C      J = 0
          C      DOWHILE CMUX SAYS ITS BUSY
          C      CONTINUE
          C      J = J + 1
          C      EXECUTE CMUX
          C      MUXTRUF(1) = 0
          C      CALL XCMUX
          C      IF ( MUXTRUF(1).EQ. 0 ) GO TO 210
          C      IF ( SHIFT(MUXTRUF(1),59-9) .LT. 0 ) GO TO 210
175      C      ENDDO
          C      PRINTON = .TRUE.
          C      PRINT 220, J
          C      220 FORMAT(*0*,20(*--*),15,* ITERATIONS LATER*)
          C      3. TRANSMIT *RIT* STATUS COMMAND
          C      MUXIRUF(1) = 56102B
          C      CALL XCMUX
          C      -----
          C      185      PRINT 300
          C      300 FORMAT(*1*,10(*--*),* INITIALIZATION SEQUENCE *,10(*--*))
          C      -INITIALIZE TERMINAL MODE/DISCRETE
          C      MUXIRUF(1) = 54004B
          C      -TRANSMIT BIT STATUS COMMAND
          C      MUXIRUF(2) = 56102B
          C      -INITIATE PROCESSING MODE/DISCRETE
          C      MUXIRUF(3) = 54004B
          C      CALL XCMUX
          C      -----
          C      195      REQUEST FOR DATA
          C      -----
          C      PRINT 400
          C      400 FORMAT(*1*,10(*--*),* REQUEST FOR DATA *,10(*--*))
          C      1. NULL INPUT
          C      CALL XCMUX
          C      2. NORMAL DATA TRANSFER WITH T/R = 1
          C      MUXIRUF(1) = 56077B
          C      CALL XCMUX
          C      3. NULL INPUT
          C      CALL XCMUX
          C      -----
          C      DATA TRANSFER < 32 WORDS
          C      -----
          C      PRINT 500
          C      500 FORMAT(*1*,10(*--*),* DATA TRANSFER < 32 WORDS *,10(*--*))
          C      1. DATA TRANSFER COMMAND WITH COUNT = 15
          C      MUXIRUF(1) = 54040B + 15
          C      HEADER WORD 1 - IPL WITH COUNT = 15
          C      MUXIRUF(2) = 100002B + 15
          C      HEADER WORD 2 - ADDRESS = 1
          C      MUXIRUF(3) = 1
          C      DOWHILE IPL WORDS REQUIRED
          C      DO 600 K=4,15
          C      INSERT DUMMY IPL WORD = POSITION IN BUFFER
          C      MUXIRUF(K) = K
          C      -----
          C      210      MUXC
          C      211      MUXC
          C      212      MUXC
          C      213      MUXC
          C      214      MUXC
          C      215      MUXC
          C      216      MUXC
          C      217      MUXC
          C      218      MUXC
          C      219      MUXC
          C      220      MUXC
          C      221      MUXC
          C      222      MUXC
          C      223      MUXC
          C      224      MUXC
          C      225      MUXC
          C      226      MUXC
          C      227      MUXC
          C      228      MUXC
          C      229      MUXC
          C      230      MUXC
          C      231      MUXC
          C      232      MUXC
          C      233      MUXC
          C      234      MUXC
          C      235      MUXC
          C      236      MUXC
          C      237      MUXC
          C      238      MUXC
          C      239      MUXC
          C      240      MUXC
          C      241      MUXC
          C      242      MUXC
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          C      245      MUXC
          C      246      MUXC
          C      247      MUXC
          C      248      MUXC
          C      249      MUXC
          C      250      MUXC
          C      251      MUXC
          C      252      MUXC
          C      253      MUXC
          C      254      MUXC
          C      255      MUXC
          C      256      MUXC

```

```
225      600 CONTINUE
          C
          ENDDO
          CALL XCMUX
          2. NULL INPUT 4 TIMES
          CALL XCMUX
          CALL XCMUX
          CALL XCMUX
          CALL XCMUX
          C-----
          C
          230      DATA TRANSFER > 32 WORDS
          C-----
          C
          PRINT 700
          700 FORMAT(*1*,10(*--),* DATA TRANSFER > 32 WORDS *,10(*--*))
          C
          1. MULTI-MESSAGE COMMAND
          MUXBUF(1) = 543008
          C
          HEADER WORD 1 - DISPLAY DATA WITH COUNT = 42
          MUXABUF(1) = 42
          C
          HEADER WORD 2 - ACOUSTICS DATA WITH COUNT = 1
          MUXABUF(2) = 1000018
          C
          HEADER WORD 3 - LOFAR, DIFAR ALI DATA IN ZONE 1
          MUXABUF(3) = 1000008
          C
          HEADER WORD 2 - ACOUSTICS DATA WITH COUNT = 1
          MUXABUF(4) = 1000018
          C
          HEADER WORD 3 - DEMON ALI DATA IN ZONE 2
          MUXABUF(5) = 400408
          C
          HEADER WORD 2 - ACOUSTICS DATA WITH COUNT = 1
          MUXABUF(11) = 1000028
          C
          HEADER WORD 3 - RANGE COPPLER DATA IN ZONE 4
          MUXABUF(7) = 201408
          C
          HEADER WORD 2 - MAD DATA WITH COUNT = 1
          MUXABUF(8) = 1000018
          C
          HEADER WORD 3 - FULL SCALE
          MUXABUF(9) = 38
          C
          HEADER WORD 2 - ATO DISPLAY DATA WITH COUNT = 18
          MUXABUF(10) = 400008 + 18
          C
          HEADER WORD 3 - ADDRESS = 20018
          MUXABUF(11) = 20018
          K1 = 11
          C
          DOWHILE ATO DATA REQUIRED
          DO 800 K=2,18
          C
          INSERT DUMMY DATA = POSITION WITHIN BLOCK
          K1 = K1 + 1
          MUXABUF(K1) = K
          C
          800 CONTINUE
          C
          ENDDO
          C
          265      HEADER WORD 2 - SC DISPLAY DATA WITH COUNT = 13
          MUXABUF(29) = 200008 + 13
          C
          HEADER WORD 3 - ADDRESS = 30018
          MUXABUF(30) = 30018
          C
          DUMMY SO DATA TO PAD OUT MULTI-MESSAGE BLOCK
          MUXABUF(31) = 31
          MUXABUF(32) = 32
          C
          2. TRANSMIT STATUS WORD
          MUXIBUF(2) = 540029
          C
          3. NORMAL DATA TRANSFER OF 10 WORDS
          C
          275      C
          MUXC 157
          MUXC 158
          MUXC 159
          MUXC 160
          MUXC 161
          MUXC 162
          MUXC 163
          MUXC 164
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          MUXC 211
```



```
PROGRAM          MUXDRIV
      MUXIBUF(3) = 54040R + 10
      K1 = 4
      C  DO WHILE SO DATA REQUIRED
      C  DO 900 K=1,10
      C  INSERT DUMMY DATA = POSITION IN TRANSFER
      C  MUXIBUF(K1) = K
      C  K1 = K1 + 1
      C  900 CONTINUE
      C  ENDDO
      C  CALL XCMUX
      C  CALL XCMUX
      C  CALL XCMUX
      C  CALL XCMUX
      C  CALL XCMUX
      C  END
      280
      285
      290
      MUXC 212
      MUXC 213
      MUXC 214
      MUXC 215
      MUXC 216
      MUXC 217
      MUXC 218
      MUXC 219
      MUXC 220
      MUXC 221
      MUXC 222
      MUXC 223
      MUXC 224
      MUXC 225
      MUXC 226
```

PROGRAM MUXDRIV
SYMB -IC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2025 MUXDRIV 16

VARIABLES	SN	TYPE	RELOCATION	REFS
4223 ACPRIME	REAL	/	/	57
5605 AKFR	REAL	/	/	57
11317 AKFRV	REAL	/	/	57
11313 ALGAKFR	REAL	/	/	57
11314 ALGAKFRV	REAL	/	/	57
11315 ALGIMO	REAL	/	/	57
0 AMCONS	REAL	CONST	/	73
10707 ANARR	REAL	ARRAY	/	67
4007 ANS	REAL	ARRAY	/	67
11147 AOU	REAL	/	/	49
1754 ATOREF	REAL	ARRAY	/	67
4224 AZSCNLM	REAL	/	/	38
11322 BERFTP	REAL	/	/	57
261 BUOVIC	REAL	ARRAY	DEFAULT	71
3127 BUOVNAV	REAL	ARRAY	/	31
2427 BUOVNAV	REAL	ARRAY	/	49
4010 C	REAL	/	/	49
4142 CASSPER	REAL	/	/	49
4141 CASSIM	REAL	/	/	49
4225 CLUTER	REAL	/	/	57
160 COMNAV	REAL	/	/	20
2077 CONTAC	REAL	ARRAY	/	38
243 CONVOY	REAL	ARRAY	/	20
5607 COSB	REAL	ARRAY	/	67
6707 COSO	REAL	ARRAY	/	67
4600 CSPHIR	REAL	/	/	57
2033 CSROCR	REAL	ARRAY	/	38
4601 CSXLDZI	REAL	/	/	57
2213 CURSOR	REAL	ARRAY	/	57
11151 CVRANGE	REAL	/	/	78
1705 CX	REAL	/	/	67
1706 CY	REAL	/	/	20
1770 DATUM	REAL	ARRAY	/	78
361 DATUMIC	REAL	ARRAY	DEFAULT	31
4574 DCL13	REAL	/	/	57
4575 DCL23	REAL	/	/	57
4576 DCL33	REAL	/	/	57
7701 DELTS	REAL	/	/	49
4226 DELXI	REAL	/	/	57
257 DELXTIC	REAL	DEFAULT	/	57
4227 DELVI	REAL	/	/	57
260 DELVTIC	REAL	DEFAULT	/	31
4230 DELZI	REAL	/	/	57
1775 OFEAR	REAL	ARRAY	/	38
4231 OLTPHIR	REAL	/	/	57
0 ERUFENT	REAL	COMCMUX	/	80
1 EHOARPD	REAL	COMCMUX	/	80
2301 EXPCIR	REAL	ARRAY	/	38

RELOCATION

SN TYPE

VARIABLES

VARIABLES	SN	TYPE	RELOCATION
4753 FARNGLM	REAL	REFS	57
11107 FI	REAL	REFS	67
2244 FIXDES	REAL	REFS	38
11253 FRLOG	REAL	REFS	67
355 FYPE	REAL	REFS	20
340 FTPNAV	REAL	REFS	20
11321 GAMMAS	REAL	REFS	71
4602 GMLMOAC	REAL	REFS	57
4232 GRAZANG	REAL	REFS	57
11 HCOS	REAL	REFS	81
0 HELO	REAL	REFS	29
0 HELOIC	REAL	REFS	31
256 HELOST	REAL	REFS	20
6 HKTIME	REAL	REFS	46
0 HOPRIM	REAL	REFS	72
5 HSIN	REAL	REFS	81
4126 IAAGPMD	INTEGER	REFS	49
4202 IACDATH	INTEGER	REFS	49
4206 IACDATH	INTEGER	REFS	49
4140 IACSTS	INTEGER	REFS	49
3 IATLCNT	INTEGER	REFS	42
363 IAUTMAD	INTEGER	REFS	29
4143 IAUO	INTEGER	REFS	49
4147 IAUOCH	INTEGER	REFS	49
0 IBFUL1	INTEGER	REFS	84
15 IBFUL2	INTEGER	REFS	84
4216 IBOYCNT	INTEGER	REFS	49
5 ICASCNT	INTEGER	REFS	42
370 ICDTMS	INTEGER	REFS	31
4234 ICFAR	INTEGER	REFS	57
366 ICFIRST	INTEGER	REFS	31
3627 ICH	INTEGER	REFS	49
4176 ICHNDAT	INTEGER	REFS	49
7 ICONCNT	INTEGER	REFS	42
22 ICSQDFG	INTEGER	REFS	42
11 ICURCNT	INTEGER	REFS	42
12 ICYCDS	INTEGER	REFS	46
3 IDATLNK	INTEGER	REFS	46
15 IDATUM	INTEGER	REFS	42
11324 IDAW	INTEGER	REFS	71
254 IDC2ERR	INTEGER	REFS	31
252 IDECERR	INTEGER	REFS	31
4 IDFRCNT	INTEGER	REFS	42
4217 IDFX	INTEGER	REFS	49
11 IDSFTF	INTEGER	REFS	46
11574 IDSPACU	INTEGER	REFS	74
4754 IEMIT	INTEGER	REFS	65
253 IER1C	INTEGER	REFS	31
255 IER2C	INTEGER	REFS	31
21 IEXPCNT	INTEGER	REFS	42
4742 IFAIL	INTEGER	REFS	57
12 IFIXCNT	INTEGER	REFS	42
11316 IFRAND	INTEGER	REFS	67

DEFINED 132

DEFINED 125 127 128 129 130

DEFINED 2*147

DEFINED 4*123

VARIABLES	SN	TYPE	RELOCATION
1	IFPCNT	INTEGER	
2	IHELCTR	INTEGER	SYMFGL
23	IHELCTR	INTEGER	TACFLGS
4174	IHPG	INTEGER	SYMFGL
5	IHKVERF	INTEGER	ARRAY
1	IHLKNTL	INTEGER	TACFLGS
5574	ILIB	INTEGER	TACFLGS
6	IMADCNT	INTEGER	SYMFGL
107	INB	INTEGER	DEFAULT
4021	INTGIM	INTEGER	ARRAY
5575	INYESM	INTEGER	ARRAY
5601	IOCTAVE	INTEGER	ARRAY
11320	ION	INTEGER	ARRAY
13	IONTOP	INTEGER	SYMFGL
7	IONTOPF	INTEGER	TACFLGS
110	IOUB	INTEGER	DEFAULT
4150	IPASCUT	INTEGER	ARRAY
4	IPATCOR	INTEGER	TACFLGS
1602	IPCODE	INTEGER	ARRAY
4235	IPERSIS	INTEGER	ARRAY
3	IPLOCOR	INTEGER	CONCMUX
14	IPONTER	INTEGER	CONCMUX
20	IPROPOS	INTEGER	SYMFGL
2	IPOINT	INTEGER	SYMFGL
4212	IPSVCLR	INTEGER	CONCMUX
1577	IPTCRR	INTEGER	ARRAY
10	IROCNT	INTEGER	ARRAY
4236	IROFILE	INTEGER	SYMFGL
4426	IRDQDEC	INTEGER	ARRAY
4465	IRORIDX	INTEGER	ARRAY
4466	IRDQMOE	INTEGER	ARRAY
4526	IRDRSC	INTEGER	ARRAY
4467	IRDSIZE	INTEGER	ARRAY
4233	IRDSYMR	INTEGER	ARRAY
103	IRECFIL	INTEGER	DEFAULT
2	IREFCNT	INTEGER	SYMFGL
4470	IRETURN	INTEGER	ARRAY
4134	IRFCH	INTEGER	ARRAY
24	IRNGFDB	INTEGER	SYMFGL
1710	IRPTOTR	INTEGER	SYMFGL
3746	IRP	INTEGER	SYMFGL
365	ISCALIC	INTEGER	SYMFGL
4527	ISEASTE	INTEGER	SYMFGL
4025	ISELBY	INTEGER	SYMFGL
4741	ISIZE	INTEGER	SYMFGL
0	ISMKNT	INTEGER	SYMFGL
16	ISMSFDS	INTEGER	SYMFGL
3641	ISONCAT	INTEGER	SYMFGL
4132	ISONCLN	INTEGER	SYMFGL
16361	ITACVAL	INTEGER	SYMFGL
1571	ITGCNT	INTEGER	SYMFGL
256	ITGDET	INTEGER	SYMFGL
4330	ITGTN	INTEGER	SYMFGL
4011	ITHR	INTEGER	SYMFGL

VARIABLES	SN	TYPE	ARRAY	RELOCATION	REFS
233 NRCA	31	INTEGER	ARRAY	DEFAULT	REFS
247 NRCH	31	INTEGER	ARRAY	DEFAULT	REFS
112 NRSIZ	31	INTEGER	ARRAY	DEFAULT	REFS
250 NRUFFWD	31	INTEGER	ARRAY	DEFAULT	REFS
106 NR1	31	INTEGER	ARRAY	DEFAULT	REFS
365 NRHOURS	20	INTEGER	ARRAY	DEFAULT	REFS
16353 NIURIB	74	INTEGER	ARRAY	DEFAULT	REFS
11326 NIURIBUF	74	INTEGER	ARRAY	DEFAULT	REFS
11340 NIURBU	74	INTEGER	ARRAY	DEFAULT	REFS
11361 NIURBU	74	INTEGER	ARRAY	DEFAULT	REFS
5667 NOIS	67	INTEGER	ARRAY	DEFAULT	REFS
4015 NOTCH	49	INTEGER	ARRAY	DEFAULT	REFS
4532 NPD	57	INTEGER	ARRAY	DEFAULT	REFS
3633 NPNG	49	INTEGER	ARRAY	DEFAULT	REFS
10 NRHFCOR	46	INTEGER	ARRAY	TACFLGS	REFS
3702 NRNGCNT	49	INTEGER	ARRAY	DEFAULT	REFS
367 NSECS	20	INTEGER	ARRAY	DEFAULT	REFS
5606 NUMBIN	67	INTEGER	ARRAY	DEFAULT	REFS
51 OMNSIC	31	REAL	ARRAY	DEFAULT	REFS
4533 PD	57	REAL	ARRAY	DEFAULT	REFS
4534 PHIR	57	REAL	ARRAY	DEFAULT	REFS
1711 PLOTX7R	20	REAL	ARRAY	DEFAULT	REFS
1712 PLOTY7R	20	REAL	ARRAY	DEFAULT	REFS
2277 POINTER	38	REAL	ARRAY	DEFAULT	REFS
2274 PREDPOS	38	REAL	ARRAY	DEFAULT	REFS
0 PRINTON	17	LOGICAL	ARRAY	MUXDCOM	REFS
4627 RADCRCS	57	REAL	ARRAY	DEFAULT	REFS
4535 PCNOISE	57	REAL	ARRAY	DEFAULT	REFS
4536 RDPNGNH	57	REAL	ARRAY	DEFAULT	REFS
1714 REFMLL	38	REAL	ARRAY	DEFAULT	REFS
253 REFTF	20	REAL	ARRAY	DEFAULT	REFS
4 RESEYTR	31	REAL	CONCMUX	DEFAULT	REFS
2173 RNGCIR	38	REAL	ARRAY	DEFAULT	REFS
3706 R1	49	REAL	ARRAY	DEFAULT	REFS
11150 SANGERR	67	REAL	ARRAY	DEFAULT	REFS
113 SCT	31	REAL	ARRAY	DEFAULT	REFS
2243 SENSHOR	33	REAL	ARRAY	DEFAULT	REFS
4537 SF	57	REAL	ARRAY	DEFAULT	REFS
232 SHIPCOM	20	REAL	ARRAY	DEFAULT	REFS
174 SHIPNAV	20	REAL	ARRAY	DEFAULT	REFS
2404 SHPTRKU	38	REAL	ARRAY	DEFAULT	REFS
5647 SIG	67	REAL	ARRAY	DEFAULT	REFS
4544 SIGMA	57	REAL	ARRAY	DEFAULT	REFS
4545 SIGMAO	57	REAL	ARRAY	DEFAULT	REFS
5707 SIGNAL	67	REAL	ARRAY	DEFAULT	REFS
5627 SIN8	67	REAL	ARRAY	DEFAULT	REFS
7707 SIND	67	REAL	ARRAY	DEFAULT	REFS
4577 SNPHIR	57	REAL	ARRAY	DEFAULT	REFS
67 SONOIC	31	REAL	ARRAY	DEFAULT	REFS
16362 STKATO	74	REAL	ARRAY	DEFAULT	REFS
16364 STKSO	74	REAL	ARRAY	DEFAULT	REFS
16360 TACBEAR	74	REAL	ARRAY	DEFAULT	REFS
16357 TACRANG	74	REAL	ARRAY	DEFAULT	REFS
5 TARGIC	31	REAL	ARRAY	DEFAULT	REFS

DEFINED 141
DEFINED 144
DEFINED 139
DEFINED 134

18 DEFINED 149 165 176

142
145

PROGRAM MUXCRIV

VARIABLES	SN	TYPE	RELOCATION
30 TARGNAV	REAL	ARRAY	20
354 TIME	REAL	REFS	20
1707 TIMTICK	REAL	REFS	20
2266 TORPED	REAL	REFS	38
2311 TRACKS	REAL	REFS	38
2405 TRCKSHR	REAL	REFS	38
0 TRKTIME	REAL	REFS	46
4641 TR12	REAL	TACFLGS	57
2377 WEAFTP	REAL	REFS	38
251 WHEN	REAL	REFS	31
361 WIND	REAL	REFS	20
3637 XBUDYDR	REAL	REFS	49
4667 XFA	REAL	REFS	57
4546 XINLSEA	REAL	REFS	57
2063 XMAOCNT	REAL	REFS	39
2306 XONTOP	REAL	REFS	39
4572 XROCNTR	REAL	REFS	57
4570 XSN	REAL	REFS	57
4571 YBPO	REAL	REFS	57
3640 YBUDYDR	REAL	REFS	49
4714 YFA	REAL	REFS	57
4557 YINLSEA	REAL	REFS	57
4573 YROCNTR	REAL	REFS	57

FILE NAMES	MODE	WRITES	153	159	177	185	197	209	232
0 OUTPUT	FMT	REFERENCES	155	173	181	193	200	203	205
EXTERNALS	TYPE	REFERENCES	225	227	228	235	286	297	238
XCMUX	0								

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
SHIFT	NO TYPE	2	INTRIN	174

STATEMENT LABELS	DEF LINE	REFERENCES
0 10	94	91
0 20	102	98
0 30	109	106
0 40	116	113
2263 100	154	153
2271 200	160	159
2113 210	168	173
2277 220	179	177
2304 300	186	185
2312 400	193	197
2317 500	210	209
0 600	221	218
2325 700	233	232
0 800	264	260
0 900	293	279

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
2030	10	K	91 94	28	INSTACK
2034	20	K	98 102	28	INSTACK

PROGRAM MUXORIV

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
2037	30	K	106 109	28	INSTACK
2042	40	K	113 116	28	INSTACK
2171	600	* K	218 221	28	INSTACK
2227	800	* K	260 264	48	INSTACK
2245	900	* K	279 283	48	INSTACK

COMMON BLOCKS LENGTH 1

MUXDDCOM 7414

MEMBERS - BIAS NAME(LENGTH)

0	PRINTCN(1)
0	HELIC (24)
124	SHIPNAV(30)
171	REFTP (3)
224	FTPNV (12)
241	WIND (2)
246	MINUTES(1)
249	JARUFF (640)
891	JSUF (1)
896	JPILOT (1)
965	CX (1)
968	IPPTOTP(1)
971	MISSION(1)
1016	DATUM (5)
1075	XMADCN(12)
1163	CURSOR (24)
1206	TORPEC (6)
1217	EXPCIG (5)
1279	WEAFTE (5)
1303	BUOYOM (320)
1947	NPNG (4)
1953	ISONDAT (32)
1990	R1 (32)
2055	ANS (1)
2061	NOTCH (4)
2070	MASIRE (64)
2139	MAXBUOY(1)
2145	CASSIM(1)
2151	IAUTOCH(1)
2172	INFPG (2)
2182	IACRAIV(4)
2191	IDFX (4)
2197	CLUTTER(1)
2200	CLZ1 (1)
2203	IRDSYMB(1)
2206	IRDFILE(120)
2358	IRDFME(1)
2390	IRDRSC (1)
2393	JRDR (1)
2396	PHIR (1)
2399	SF (5)
2406	XINLSEA(9)
2425	VAPD (1)
2428	OCL13 (1)
2431	SNPHIR (1)
2434	GMLHOC(21)
2465	TR12 (1)
24	TARGNAV(88)
154	SHIPCOM(9)
174	HELOST (30)
236	TIMF (1)
243	IAUTMAD(12)
247	NSECS (1)
889	TYGNT (1)
892	MADAUTOT(3)
965	CY (1)
969	PLOTYZP(1)
972	REFMLL (32)
1021	DIFAP (30)
1097	CONTACT (60)
1187	SENSHOP(1)
1212	PREPOS(3)
1222	XONTOP (3)
1284	SHPTRKU(1)
1623	PUDYNV(320)
1951	XPUOYCR(1)
1985	DELTS (1)
2022	I02 (32)
2056	C (1)
2065	INTGTMT(4)
2134	IAAGPND(4)
2140	IPFCH (4)
2146	CASSPER(1)
2152	IPASOUT(4)
2174	ICHNGAT(4)
2186	IPSVCLR(4)
2195	ACPPINE(1)
2198	DELXI (1)
2201	OLTPHJP(1)
2204	ICFAR (1)
2326	IRDPDEF(21)
2359	IPDSIZE(1)
2391	ISFASTE(1)
2394	NPD (1)
2397	PCNOISE(1)
2404	SIGMA (1)
2415	YINLSEA(9)
2426	XPDONT(1)
2429	DCL27 (1)
2432	CSPHIR (1)
2455	RAMPROS(9)
2465	M3 (121)

112	COMNAV (12)
143	CONVOY (13)
204	NAV (20)
227	FTPE (15)
245	NHOURS (1)
248	TUNF (1)
890	JCMN (1)
895	IFTCORP(1)
898	IPQEC (16)
967	TIMICK(1)
970	FLCTYZE(1)
1014	ATGEEF (12)
1051	CSPCE (124)
1147	RAGTO (16)
1188	FIXES (18)
1215	PCINTER(2)
1225	TRACKS (15)
1295	TPCKSHR(13)
1943	TCH (4)
1952	YPUOYCF(1)
1966	NRNCCNT(4)
2054	LL (1)
2057	ITHR (4)
2069	ISELRY (1)
2138	ISACLN(1)
2144	IPOSTS (1)
2147	TAUTO (4)
2156	JPOCF (16)
2178	IACDAX(4)
2180	IPCYCNT(1)
2196	AZSONLM(1)
2199	DELYI (1)
2202	GRAZANG(1)
2377	IRDSITX(1)
2380	IPETUPN(30)
2382	ITGIN (1)
2385	PD (1)
2398	CDRAGNM(1)
2405	SIGMAC (1)
2424	XSN (1)
2427	YRDNTP(1)
2430	OCL33 (1)
2433	CSXLD7I(1)
2464	KRDRCYC(1)
2487	XFA (121)

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

2539	YFA	(21)	2539	IFAIL	(9)
2539	FARGLM	(1)	2540	ITKFL	(100)
2940	ILIP	(1)	2945	ICCTAVE	(4)
2949	AKER	(1)	2951	CCSE	(16)
2967	SING	(16)	2969	NOIS	(16)
3015	SIGNAL	(512)	4039	STNC	(512)
4551	ANRR	(128)	4711	ACU	(1)
4712	SANGEPP	(1)	4714	KFSVTR	(1)
4715	IVERN	(64)	4811	ALGAFR	(1)
4812	ALCAKPY	(1)	4814	FRAND	(1)
4815	AKFEV	(1)	4817	GAMMAS	(1)
4818	REFTF	(1)	4820	IDAM	(2)
4822	NIUTRUF	(1)	4849	NIUTRUF	(40)
4889	MSPIBUE	(40)	4946	MSPIBUS	(40)
4986	MADISP	(2)	4992	MUXIBUE	(50)
5042	MUXIBUE	(17)	5315	MUXIBUE	(40)
5355	KATC9UF	(1024)	7433	NIURTY	(1)
7404	MSP3IT	(1)	7407	TACFANG	(1)
7438	TACCEAR	(1)	7410	STKATC	(2)
7412	STKSC	(2)			
0	HELIC	(5)	41	OWNSIC	(14)
55	SORIC	(12)	58	JKRUN	(1)
69	JPOINT	(1)	71	ING	(1)
72	IOUTB	(1)	74	NEST7	(1)
75	SCY	(30)	167	NRCM	(1)
168	NBUFFWD	(1)	170	DECER	(1)
171	IERIC	(1)	173	ICR2C	(1)
174	JRREY	(1)	176	DELATIC	(1)
177	BUOYC	(64)	245	ISCALIC	(1)
246	ICFIRST	(1)	248	ICOTMDS	(1)
0	ISMKCN	(1)	2	IREFCNT	(1)
3	IATLCN	(1)	5	ICASCN	(1)
6	IMACCN	(1)	8	IFCFEAT	(1)
9	ICUECAT	(1)	11	ICONTOR	(1)
12	IPONTER	(1)	14	ISNSFRS	(1)
15	ITOPDS	(1)	17	TEXPCAT	(1)
19	ICSF0FG	(1)	20	IRNGF0G	(1)
21	INFTF	(1)			
0	TRKTIME	(1)	2	IFELCOF	(1)
3	IDATLNC	(1)	5	IPKVER	(1)
6	WKTINE	(1)	8	NCFHCOB	(1)
9	IOSFTF	(1)	11	MSKALRY	(1)
0	MORLIM	(1)			
0	AMDCNS	(16)			
0	EBUFCNT	(1)	2	IPRCINT	(1)
3	IPLCCCR	(1)	5	HSIN	(4)
9	HCCS	(4)	269	KMMSG	(1)
270	KSLEIST	(1)			
0	IBFUL1	(13)			
0	IXFRERR	(3)			

STATISTICS

PROGRAM LENGTH	3418	225
BUFFER LENGTH	20228	1042

PROGRAM MUXDRIV

CYC 6600 FTY V3.0-P380 OPT=1 79/06/12. 15.45.44.

PAGE

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STATISTICS

COMMON LENGTH	11318	601
BLANK COMMON	163668	7414

SUBROUTINE XCMUX

ABSTRACT

THIS ROUTINE MONITORS EXECUTION OF THE CMUX MODULES FOR THE CMUX DRIVER.

1. IT PRINTS CONTENTS OF CURRENT INPUT BUFFER
2. IT PRINTS CHANGES WITHIN ALTERNATE INPUT BUFFER
3. IT EXECUTES THE CMUX1 MODULE
4. IT PRINTS CHANGES TO THE DATA TRANSFER HOLDING BUFFER
5. EVERY 5TH CYCLE, IT EXECUTES CMUX2
6. IT PRINTS THE CONTENTS OF THE RESULTANT OUTPUT BUFFER AND RESETS THE PP BIT TO SIGNIFY ACCEPTANCE
7. IT PRINTS CHANGES TO THE ATO/SC BUFFERS
8. IT PRINTS MAC, ACOUSTICS FLAGS/DATA

CODING HISTORY

1. PROGRAMMED--ALEX PODLECKI (CSC) 01/15/78

END OF ABSTRACT

SUBROUTINE XCMUX

INTEGER CPBIT, PPRIT, XOR, SPLIT(17)

LOGICAL POINTON

COMMON /MUXCOM/ POINTON

INTEGER OLDASUF(256)

INTEGER OLDMSG(256)

INTEGER OLDATO(1024), CLOSC(1024), SPLIT(17)

NAVIGATION PARAMETERS

COMMON /HELQ(24), TARGNAV(4,22), COMNAV(4,3), SHIPNAV(2,15),

X SHIPCOM(3,3), CONVCY(4,2), REFF(3), HELOST(2,15), NAV(20)

X , FIPNAV(4,3), TIME

X , FIP(4), WIND(2), IALYMAO(2)

X , NHOURS, MINUTES, NSECS

X , IFUNE, JABUFF(64,5,2)

X , ITGCNT, JOHN, JSUB, MAD AUTO(3)

X , IPTCRR, JPILOT

X , JRESET, IPCDEC(67), CX, CY

X , TIMTICK, IPTOTR, PLCTXR, PLCTYZE, MISSION

REAL NAV

COMMON /DEFAULT/ HELQIC(5), YARGIC(9,4), OUNSI(7,2), SONOIC(3,4),

X IRECFIL, JKRUN, JPRINT, NRI, INB, IOUTB, NRG, NFSI7, SCT(10,8),

X NACA(12), NBCH, NBUFF(4, WHEN,

X , INCERR, IERIC, IDC2ERR, IEP2C,

X , ITGOST, DELXIC, DELYIC,

X BUOYIC(2,32), DATUMIC(4), ISCALIC, ICFIPST, MODEFSIM, ICDTMS

TACTICAL DISPLAY PARAMETERS

COMMON /REFMUL(8,4), ATCREF(3,4), DATUM(5), DIFAR(5,6)

X , CSOCP(4,6), XMAOCT(4,3), CONTAC (10,6), ENGOF(4,4), CURSOR(6,4)

X , SENSOR, FIXDES(3,6), TORPED(3,2), FREPOS(3), PCINTER(2), EXPCIF(5)

X , XONTCP(3), TRACKS(3,3,6), WEAFIP(5), SHPTRKU, TRACKSHPI(3,6)

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C-----
C 100 CONTINUE
C 115 IF ( MUXIBUF(K).EQ.0 .AND. MUXIBUF(K+1).EQ.0 ) GO TO 200
C      EXPAND INPUT WORD
C      CALL EXPAND( 16, MUXIBUF(K), SPLIT)
C      PRINT INPUT WORD BY-BY
C      PRINT 110,K,(SPLIT(J),J=1,16)
C      FORMAT(*,INPUT BUFFER WORD*,I3,* = *,16(1X,I1))
C      K = K + 1
C      GO TO 100
C 200 CONTINUE
C      ENDDO
C 125 IF EMPTY INPUT BUFFER AND MESSAGES REQUESTED
C      IF ( K.NE.1 .OR. .NOT.PRINTON ) GO TO 300
C      THEN
C      PRINT INFORMATIVE MESSAGE
C      PRINT 210
C      FORMAT(*EMPTY INPUT BUFFER*)
C      ELSE
C      OMIT MESSAGE
C      GO TO 300 CONTINUE
C      ENDOF
C 135 C- PRINT ANY CHANGES IN ALTERNATE BUFFER
C-----
C      K1 = 0
C      DO UNTIL ALTERNATE BUFFER EXHAUSTED
C      DO 330 K=1,256
C      IF THE ALTERNATE BUFFER HAS CHANGED
C      IF ( MUXABUF(K) .EQ. OLDABUF(K) ) GO TO 320
C      THEN
C      K1 = K1 + 1
C      IF THIS IS THE INITIAL CHANGE
C      IF ( K1 .NE. 1 ) GO TO 310
C      THEN
C      PRINT HEADINGS FOR NEW VALUES
C      PRINT 305
C      FORMAT(*J CHANGES IN ALTERNATE BUFFER*
C      / * WORD NEW VALUE*)
C      ELSE
C      OMIT HEADING MESSAGE
C      CONTINUE
C      ENDOF
C      CALL EXPAND( 16, MUXABUF(K), SPLIT)
C      PRINT POSITION AND NEW VALUE
C      PRINT 315, K, (SPLIT(J),J=1,16)
C      FORMAT(1X,I3,2X,16I1)
C      SAVE NEW VALUE
C      OLDABUF(K) = MUXABUF(K)
C      ELSE
C      OMIT PRINTING
C      CONTINUE
C      ENDOF
C 330 CONTINUE

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272 MUXC
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 326 MUXC

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C      ENDDO
C      SET UP DUMMY HEADING SIN/CCS
      HELD(2) = XCOS(KSINCCS)
      HELD(3) = XSIN(KSINCCS)
      KSINCCS = 1 + AND(KSINCCS,3)
170  C-----
C      EXECUTE THE CMUX1 MODULE
C-----
C      CALL CMUX1
175  C-----
C      PRINT CHANGES TO HOLDING BUFFER
C-----
C      K1 = 0
C      DOUNTIL HOLDING BUFFER EXHAUSTED
180  C      DO 380 K=1,256
C      IF THE HOLDING BUFFER HAS CHANGED
C      IF ( MSGDAT(K) .EQ. OLDMSG(K) ) GO TO 370
C      THEN
C      K1 = K1 + 1
C      IF THIS IS THE INITIAL CHANGE
C      IF ( K1 .NE. 1 ) GO TO 350
C      PRINT HEADINGS FOR NEW VALUES
C      PRINT 340
C      FORMAT(*0CHANGES IN HOLDING BUFFER*
190  C      /* WOPD NEW VALUE*)
C      ELSE
C      OMIT MESSAGE
C      CONTINUE
195  C      ENDF
C      CALL EXPAND( 16, MSGDAT(K), SPLIF)
C      PRINT POSITION AND NEW VALUE
C      PRINT 360, K, (SPLIF(J),J=1,16)
C      FORMAT(1X,I3,2X,16I1)
C      SAVE NEW VALUE
C      OLDMSG(K) = MSGDAT(K)
C      ELSE
C      OMIT PRINTING
205  C      CONTINUE
C      ENDF
C      380 CONTINUE
C      ENDDO
C      IF 5TH CYCLE
C      IF ( KCYCLE .LY. 5 ) GO TO 800
C      THEN
210  C-----
C      EXECUTE THE CMUX2 MODULE
C-----
C      CALL CMUX2
C      KCYCLE = 0
215  C-----
C      PRINT OUTPUT BUFFER
C-----
C      CPBIT = AND( 1, SHIFT( IDAM(1), 60-21) )
C      PPBIT = AND( 1, SHIFT( IDAM(2), 60-21) )
220  C-----
C-----

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MUXC 327
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 MUXC 381

[illegible]

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      THEN
        K1 = K1 + 1
        IF THIS IS THE INITIAL CHANGE
          IF ( K1 .NE. 1 ) GO TO 710
        THEN
          PRINT HEADINGS
          PRINT 705
          FORMAT(*CHANGES TO ATO/SO BUFFERS*
                /* WORD ATO VALUE=
                SO VALUE*)
        ELSE
          CMTT HEADINGS
          CONTINUE
        ENDF
      CALL EXPAND( 16, KATCRUF(K), SPLIT)
      CALL EXPAND( 16, KSORUF(K), SPLIT2)
      PRINT POSITION AND CURRENT VALUES
      PRINT 720, K, (SPLIT(J),J=1,16), (SPLIT2(J),J=1,16)
      FORMAT(1X,14,1X,16I1,1X,16I1)
      SAVE CURRENT VALUES
      OLDATC(K) = KATCRUF(K)
      OLDISO(K) = KSORUF(K)
    ELSE
      OMIT PRINTING
      CONTINUE
    ENDF
  730
  740
  750
  760
  770
  780
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C ENDDC

3573

800 CONTINUE

DO NOT EXECUTE THE CMUX2 MODULE

ENDIF

RETURN

END

335

402
MLX

463

404 JUN

495 JXNM

496 UXM

457 JX77

254 JX774

SYMBOLIC REFERENCE MAP			
ENTRY	POINTS	DEF LINE	REFERENCES
1	XCMUX	26	336
VARIABLES SN TYPE RELOCATION			
4223	APPRIME	REAL	/ /
5605	AKR	REAL	/ /
11317	AKFRV	REAL	/ /
11313	ALGAKFR	REAL	/ /
11314	ALGAKFV	REAL	/ /
11315	ALGTWO	REAL	/ /
0	ANCONS	REAL	CONST
10707	ANARR	REAL	ARRAY
4007	ANS	REAL	/ /
11147	AOU	REAL	/ /
1754	ATOREF	REAL	/ /
4224	AZSCNLM	REAL	ARRAY
11322	BERFTP	REAL	/ /
261	BUOYIC	REAL	/ /
3127	BUOYNV	REAL	ARRAY
2427	BUOYRM	REAL	ARRAY
4010	C	REAL	/ /
4142	CASSPER	REAL	/ /
4141	CASSIIM	REAL	/ /
4225	CLUTTER	REAL	/ /
160	COMNAV	REAL	ARRAY
2077	CONTACT	REAL	ARRAY
243	CONVOY	REAL	ARRAY
5607	COSB	REAL	ARRAY
6707	COSO	REAL	ARRAY
440	CPBIT	INTEGER	/ /
4600	CSPHIP	REAL	/ /
2033	CSPGCP	REAL	ARRAY
4601	CSXLOZI	REAL	/ /
2213	CURSOP	REAL	ARRAY
11151	CVRANGE	REAL	/ /
1705	CX	REAL	/ /
1706	CY	REAL	/ /
1770	DATUM	REAL	ARRAY
361	DATUMIC	REAL	ARRAY
4574	DGL13	REAL	DEFAULT
4575	DGL23	REAL	/ /
4576	DGL33	REAL	/ /
3701	DELTS	REAL	/ /
4226	DELXI	REAL	/ /
257	DELXTIC	REAL	DEFAULT
4227	DELYI	REAL	/ /
260	DELYTIC	REAL	DEFAULT
4230	DELZI	REAL	/ /
1775	DIFAR	REAL	ARRAY
4231	DUTPHIR	REAL	/ /
0	EBUFCTN	REAL	COMMON
1	ENORWRD	REAL	COMMON

SUBROUTINE XCMUX

VARIABLES	SN	TYPE	RELOCATION	REFS
1	IFTPCNT	INTEGER	SYMFGL	56
2	INELCOR	INTEGER	TACFLGS	60
23	INELCUR	INTEGER	SYMFGL	56
4174	INFPG	INTEGER	/ /	63
5	INXVERF	INTEGER	TACFLGS	60
1	INLCNTL	INTEGER	TACFLGS	60
5574	ILIR	INTEGER	/ /	79
6	IMADGNT	INTEGER	SYMFGL	56
107	INR	INTEGER	DEFAULT	45
4021	INTGTM	INTEGER	/ /	63
5575	INTVESH	INTEGER	/ /	79
5601	IOCTAVE	INTEGER	/ /	81
11320	ION	INTEGER	/ /	85
13	IONTOP	INTEGER	SYMFGL	56
7	IONTOPF	INTEGER	TACFLGS	60
110	IOUT9	INTEGER	DEFAULT	45
4150	IPASCUT	INTEGER	/ /	63
4	IPATCOR	INTEGER	TACFLGS	60
1602	IPCODEC	INTEGER	/ /	34
4235	IPERSIS	INTEGER	/ /	71
3	IPLOCOR	INTEGER	COMCMUX	95
14	IPONTER	INTEGER	SYMFGL	56
20	IPROPOS	INTEGER	SYMFGL	56
2	IPPOINT	INTEGER	COMCMUX	95
4212	IPSVCLR	INTEGER	/ /	63
1577	IPTCRR	INTEGER	/ /	34
10	IPRCNT	INTEGER	SYMFGL	56
4236	IPDFILE	INTEGER	/ /	71
4426	IRORDEC	INTEGER	/ /	71
4465	IRORIOX	INTEGER	/ /	71
4466	IRORMOE	INTEGER	/ /	71
4526	IRORSC	INTEGER	/ /	71
4467	IRDSIZE	INTEGER	/ /	71
4233	IRDSYMB	INTEGER	/ /	71
103	IRECFIL	INTEGER	DEFAULT	45
2	IREFCNT	INTEGER	SYMFGL	56
4470	IRETUPN	INTEGER	/ /	71
4134	IRFCH	INTEGER	/ /	63
24	IRNGFDG	INTEGER	SYMFGL	56
1710	IRPTOTR	INTEGER	/ /	34
3746	IR2	INTEGER	/ /	63
365	ISCALIC	INTEGER	DEFAULT	45
4527	ISEASTE	INTEGER	/ /	71
4025	ISELBY	INTEGER	/ /	63
4741	ISIZE	INTEGER	/ /	71
0	ISMKCNT	INTEGER	SYMFGL	56
16	ISNSFOS	INTEGER	SYMFGL	56
3641	ISONOAT	INTEGER	/ /	63
4132	ISCNOLN	INTEGER	/ /	63
16361	ITACVAL	INTEGER	/ /	88
1571	ITGCNT	INTEGER	/ /	34
256	ITGOET	INTEGER	DEFAULT	45
4530	ITGIN	INTEGER	/ /	71
4011	ITHR	INTEGER	/ /	63

VARIABLES	SN	TYPE	RELOCATION
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
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LINE	ADDRESS	DATA	DESCRIPTION	UNIT	STATUS	REMARKS
111	NBC	INTEGER	DEFAULT	45		
233	NBCA	INTEGER	DEFAULT	45		
247	NBCM	INTEGER	DEFAULT	45		
112	NBSIZ	INTEGER	DEFAULT	45		
250	NBUFFWD	INTEGER	DEFAULT	45		
106	NB1	INTEGER	DEFAULT	45		
365	NHOURS	INTEGER	/ /	34		
16353	NIUBIT	INTEGER	/ /	88		
11326	NIUT9UF	INTEGER	/ /	88		
11340	NIUBUF	INTEGER	/ /	88		
11361	NIUT9UF	INTEGER	/ /	88		
5667	NOIS	INTEGER	/ /	91		
4015	NOTCH	INTEGER	/ /	63		
4532	NPD	INTEGER	/ /	71		
3633	NPNG	INTEGER	/ /	63		
10	NRHFOR	INTEGER	TACFLGS	60		
3702	NRNGCNT	INTEGER	/ /	63		
367	NSECS	INTEGER	/ /	34		
5636	NUMBIN	INTEGER	/ /	81		
467	OLDABUF	INTEGER	ARRAY	30	141	DEFINED
1467	OLDATO	INTEGER	ARRAY	32	274	DEFINED
1367	OLDMSG	INTEGER	ARRAY	31	182	DEFINED
3467	OLDOSO	INTEGER	ARRAY	32	274	DEFINED
51	OMNSIC	REAL	DEFAULT	45		
4533	PD	REAL	/ /	71		
4534	PHIR	REAL	/ /	71		
1711	PLOTXYZR	REAL	/ /	34		
1712	PLOTYZR	REAL	/ /	34		
2277	POINTER	REAL	/ /	52		
441	PPBIT	INTEGER	ARRAY	27	222	DEFINED
2274	PREDPOS	REAL	/ /	52		
0	PRINTON	LOGICAL	MUXOCOM	28	29	125
4627	RADCPDS	REAL	ARRAY	71		
4535	RCNOISE	REAL	/ /	71		
4536	RDNGNM	REAL	/ /	71		
1714	REFHLL	REAL	/ /	52		
253	REFTP	REAL	/ /	34		
4	RESETTR	REAL	CONCMUX	95		
2173	RNGCIR	REAL	ARRAY	52		
3706	R1	REAL	ARRAY	63		
11150	SANGERR	REAL	/ /	81		
113	SCF	REAL	DEFAULT	45		
2243	SENSHOR	REAL	/ /	52		
4537	SF	REAL	/ /	71		
232	SHIPCOM	REAL	ARRAY	34		
174	SHIPNAV	REAL	ARRAY	34		
2434	SHPTRKU	REAL	/ /	52		
5647	SIG	REAL	/ /	81		
4544	SIGMA	REAL	/ /	71		
4545	SIGMAO	REAL	/ /	71		
5707	SIGNAL	REAL	/ /	81		
5637	SINB	REAL	ARRAY	81		
7707	SIND	REAL	/ /	81		
4577	SNPHIR	REAL	/ /	71		

SUBROUTINE XCMUX

RELOCATION

VARIABLES SN TYPE

ARRAY ARRAY

67 SONOIC REAL

ARRAY

446 SPLIT INTEGER

ARRAY

5467 SPLIT2 INTEGER

ARRAY

16362 STKATO REAL

ARRAY

16364 STKSO REAL

ARRAY

16360 TACBEAR REAL

ARRAY

16357 TACRANG REAL

ARRAY

5 TARGIC REAL

ARRAY

30 TARGNAV REAL

ARRAY

354 TIME REAL

ARRAY

1707 TIMTICK REAL

ARRAY

2266 TORPED REAL

ARRAY

2311 TRACKS REAL

ARRAY

2405 TRKSHP REAL

ARRAY

C TRKTIME REAL

ARRAY

4641 TR12 REAL

ARRAY

2377 WEAFTP REAL

ARRAY

251 WHEN REAL

ARRAY

361 WIND REAL

ARRAY

3637 XBUOYDR REAL

ARRAY

5514 XCOS REAL

ARRAY

4667 XFA REAL

ARRAY

4546 XINLSEA REAL

ARRAY

2063 XMADCONT REAL

ARRAY

2306 XONTOP REAL

ARRAY

4572 XPOCNTR REAL

ARRAY

5510 XSIN REAL

ARRAY

4570 XSN REAL

ARRAY

4571 YAPD REAL

ARRAY

3640 YBUOYDR REAL

ARRAY

4714 YFA REAL

ARRAY

4557 YINLSEA REAL

ARRAY

4573 YROCNTR REAL

FILE NAMES

MODE

OUTPUT

WRITES

259

EXTERNALS TYPE ARGS REFERENCES

CHUX1

0

REFERENCES

174

CHUX2

0

REFERENCES

214

EXPAND

3

REFERENCES

116

XOR

2

REFERENCES

27

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES

AND

NO TYPE

DEF LINE

REFERENCES

SHIFT

NO TYPE

DEF LINE

REFERENCES

STATEMENT LABELS

DEF LINE

REFERENCES

5 100

113

DEF LINE

REFERENCES

332 110 FMT

119

DEF LINE

REFERENCES

26 200 FMT

122

DEF LINE

REFERENCES

337 210 FMT

129

DEF LINE

REFERENCES

REFS

27

231

REFS

88

REFS

88

REFS

88

REFS

88

REFS

45

REFS

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REFS

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STATEMENT LABELS

DEF LINE REFERENCES

35	300		132	125
343	305	FMT	149	148
51	310		153	145
352	315	FMT	158	157
65	320		163	141
0	330		165	139
355	340	FMT	190	189
112	350		194	186
364	360	FMT	199	198
126	370		204	192
0	390		206	180
367	400	FMT	226	225
165	430		233	233
166	460		242	237
374	470	FMT	247	246
0	500		248	229
206	600		254	222
401	610	FMT	260	259
213	620		263	256
213	700		265	252
405	705	FMT	283	282
232	710		287	276
415	720	FMT	292	293
254	730		299	274
0	740		301	272
420	750	FMT	311	310
271	760		316	307
427	770	FMT	325	324
304	780		328	321
0	790		330	319
307	800		333	209

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES

37	330	* K	139	165	EXT REFS
100	380	* K	130	206	EXT REFS
156	500	* K	229	248	EXT REFS
215	740	* K	272	301	EXT REFS
272	790	* K	319	330	EXT REFS

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

0	PRINTCN(1)	24	TARGNAV(88)	112	CCNAV (12)
0	HELIC (24)	154	SHIPCOM(9)	143	CONVY (9)
124	SHIPNAV(30)	174	HELIC (30)	204	NAV (20)
171	DEFTP (3)	236	TIME (1)	237	TIME (4)
224	FTNAV (12)	243	IAUTHAD(12)	245	NRORS (1)
241	WIND (2)	247	NSECS (1)	248	TJUNE (1)
246	MINUTES(1)	899	ITGONT (1)	800	JCHN (1)
249	JABUFF (640)	892	NADAUTO(7)	895	IPCCOR(1)
891	JSUR (1)	897	JPRESET (1)	898	IPCCOR (67)
196	JPLOIT (1)	966	CY (1)	947	TIMICK(1)
965	CX (1)	969	PLTYZR(1)	970	PLTYZR(1)
968	IRPTOP(1)	972	REFMLL (32)	1004	ATGEEF (12)
971	MISSION(1)	1021	DIFAR (30)	1051	CSRCOR (24)
1016	DATUM (5)				

COMMON BLOCK	LENGTH	MEMBERS - BY NAME (LENGTH)
1075	XMAONT (12)	
1163	CURSOR (24)	
1206	TORPED (5)	
1217	EXPCIE (5)	
1279	WEAFIE (5)	
1303	BUOVRW (320)	
1947	NPMC (4)	
1953	ISONDAY (32)	
1990	R1 (32)	
2055	ANS (1)	
2061	NOTCH (4)	
2070	MASIRF (64)	
2139	MAXBUCY (1)	
2145	CASSTIM (1)	
2151	TAUTOCH (1)	
2172	INFPG (2)	
2182	IACDAIY (4)	
2191	IOFX (4)	
2197	CLUTTER (1)	
2200	DELZI (1)	
2203	IPDSVMB (1)	
2206	IRDFILE (120)	
2358	IPDMCE (1)	
2390	IRDPSC (1)	
2393	JROR (1)	
2396	PHIR (1)	
2399	SF (5)	
2406	XINLSEA (9)	
2425	VBP0 (1)	
2428	DCL13 (1)	
2431	SNPHIE (1)	
2434	GMLWQAC (21)	
2465	TR12 (1)	
2508	YFA (21)	
2539	FARNGLM (1)	
2940	ILIB (1)	
2949	AKFR (1)	
2967	SING (16)	
3015	SIGNAL (512)	
4551	ANARR (128)	
4712	SANGERO (1)	
4715	IVERN (64)	
4812	ALGAKRV (1)	
4815	AKRV (1)	
4818	BERFIE (1)	
4822	NIUBUF (10)	
4889	NSPIBUF (40)	
4986	MADCISP (2)	
5042	MUXORUF (17)	
5355	KATOUF (1024)	
7404	MSPBIT (1)	
7408	TACREAP (1)	
7412	STKSO (2)	
	HELICIC (5)	

COMMON BLOCK	LENGTH	MEMBERS - BYAS NAME(LENGTH)
COMMON BLOCK	LENGTH	MEMBERS - BYAS NAME(LENGTH)

SYMBOL	VALUE	SYMBOL	VALUE
55 SONGIC (12)		67 IRECFIL (1)	69 JKRN (11)
69 JPOINT (1)		70 NR1 (1)	71 ING (1)
72 JCUTR (1)		73 NDC (1)	74 NESIZ (1)
75 SCT (40)		155 NGDA (12)	167 NGCM (1)
168 NRUFFND (1)		169 WHEN (1)	170 IDEFESR (1)
171 IEPIC (1)		172 IDEFER (1)	173 IER2C (1)
174 ITGET (1)		175 DELYTC (1)	176 DELYTC (1)
177 RUDYIC (64)		241 DAYUMIC (4)	245 YSCALIC (1)
246 ICFIRST (1)		247 MDEFISM (1)	248 ICDTMS (1)
0 ISMKCNT (1)	22	1 IFTCNT (1)	2 IREFCAT (1)
3 IATLCAT (1)		4 IDEFCT (1)	5 ICASCAT (1)
6 IMACNT (1)		7 ICONCNT (1)	8 ITCRCAT (1)
9 ICURCNT (1)		10 IFTCNT (1)	11 ITCRCAT (1)
12 IPONTER (1)		13 IDATUM (1)	14 ISNPFES (1)
15 IYOPDS (1)		16 IDEFPCS (1)	17 IDEFCT (1)
18 ICSFDFG (1)		19 IHELCTUR (1)	20 IYNGFDFG (1)
21 IWETP (1)		1 IMLONTL (1)	2 IHELCTUR (1)
0 YRKTIME (1)	12	4 IPRATCCP (1)	5 IMKVERP (1)
3 IDAYLXK (1)		7 IONTCPFF (1)	8 NFFPCCF (1)
6 HXTIME (1)		10 ICYCDIS (1)	11 HSKALST (1)
9 IDSFT (1)		1 EROWFPD (1)	2 IFRPOINT (1)
0 HOPLIN (1)	1	4 RESYTR (1)	5 PSIA (4)
0 AMCCNS (16)	16	15 MWSGDAT (2*6)	249 KMMCG (1)
0 ERFUCNT (1)	271	13 INFUL2 (12)	
3 IPLCCCF (1)			
9 ACOS (4)			
270 KSLFIST (1)			
0 IBFUL1 (13)	26		
0 IXFERP (3)	3		

STATISTICS

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 ADVANCE 20 33

VARIABLES SN TYPE RELOCATION
0 K INTEGER F.P.
0 KEND INTEGER F.O.

REFS 22 25 20 25 30
REFS 22 20 20

STATEMENT LABELS DEF LINE REFERENCES
11 100 29 22
12 200 31 26

STATISTICS
PROGRAM LENGTH 148 12

36	0.004
37	0.004
38	0.004
39	0.004
40	0.004
41	0.004
42	0.004
43	0.004
44	0.004
45	0.004
46	0.004
47	0.004
48	0.004
49	0.004
50	0.004
51	0.004
52	0.004
53	0.004
54	0.004
55	0.004
56	0.004
57	0.004
58	0.004
59	0.004
60	0.004
61	0.004
62	0.004
63	0.004
64	0.004
65	0.004
66	0.004
67	0.004
68	0.004
69	0.004
70	0.004
71	0.004

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 EXPAND 24 35

VARIABLES SN TYPE RELOCATION
0 IN INTEGER F.P.
30 IN2 INTEGER F.P.
0 IOUT INTEGER F.P.
31 K INTEGER F.P.
0 N INTEGER F.P.

REFS
REFS
REFS
REFS
REFS

26 24
20 32
25 24
30 28
25 26

24
30

24

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES
AND NO TYPE 2 INTRIN 30
SHIFT NO TYPE 2 INTRIN 24

32

STATEMENT LABELS DEF LINE REFERENCES
0 100 33 28

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES
22 100 K 28 33 38 INSTACK

STATISTICS
PROGRAM LENGTH 413 33

COC 6600 FIN V3.0-P380 OPT=1 78/06/12. 15.45.44.

```
5      C-----
      C SUBROUTINE PACKPP( NPT, N)
      C
      C ABSTRACT
      C   THIS ROUTINE IS A DUMMY SUBSTITUTE FOR THE ACTUAL PACKPP.
      C
      C   NPT - NUMBER CORRESPONDING TO PT
      C
      C   N - NUMBER OF WORDS TO BE *PACKED*
      C
      C CODING HISTORY
      C   1. PROGRAMMED--ALEX POLLOCKI      11/07/77
      C
      C END OF ABSTRACT
      C-----
      C
      C SUBROUTINE PACKPP( NPT, N)
      C   EXIT
      C   RETURN
      C   END
      C
```

72 DCCM
73 DCCM
74 DCCM
75 DCCM
76 DCCM
77 DCCM
78 DCCM
79 DCCM
80 DCCM
81 DCCM
82 DCCM
83 DCCM
84 DCCM
85 DCCM
86 DCCM
87 DCCM
88 DCCM
89 DCCM
90 DCCM
91 DCCM
92 DCCM
93 DCCM
94 DCCM

CDC 5600 FIN V3.3-P380 OPT=1 78/06/12. 15.45.44.

SUBROUTINE PACKPP

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES
2 PACKPP	20	22

VARIABLES	SN	TYPE	RELOCATION
0 N		INTEGER	*UNUSED F.P.
0 NRT		INTEGER	*UNUSED F.P.

DEFINED	DEFINED
20	20

STATISTICS

PROGRAM LENGTH	68	6
----------------	----	---

XOR
STORAGE ALLOCATION.

ADDRESS	LENGTH
0	3
3	

BINARY CONTROL CAPDS.

IDENT	XOR
END	

ENTRY POINTS.

XOR	-	0
-----	---	---

COMPASS - VER 2. 7/8/86/12. 15.45.55.

PAGE

1

XOR

COMPASS - VER 2.

7/13/12. 15.45.55.

PAGE

2

IDENT
ENTRY
DATA
SA2
SA3
SY6
EQ
END

XOR
XOR
0
X1
A1+1
X3
X2-X7
XOR

DCOM
DCOM
DCOM
DCOM
DCOM
DCOM
DCOM
DCOM
DCOM
DCOM

95
96
97
98
99
100
101
102
103

XOR

0 00000000000000000000
1 53210 5031000001 5330
2 13623 0400000000 +
3

STORAGE USED
6600 ASSEMBLY

9 STATEMENTS
0.021 SECONDS

1 SYMBOLS
3 REFERENCES

XOR

SYMBOL REFERENCE TABLE.

XOR

0

PROGRAM*

2/02 E

2/03 L

2/08

COMPASS - VER 2.

78/06/12. 15.45.55.

PAGE

3

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5
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C-----
C SUBROUTINE CMUX1
C
C ABSTRACT
C THIS PROGRAM PROCESSES ALL AVK COMMANDS TO THE CMUX,
C BUILDS A HOLDING BUFFER FOR ALL DATA TRANSFERS,
C CALLS CMUXCOT TO UPDATE DISPLAY BUFFERS, TABLES AND FLAGS
C AND SAVES 4 SETS OF HELO HEADING SINE AND COSINE.
C
C CODING HISTORY
C 1. PROGRAMMED--ALEX PODLECKI 12/28/77
C
C END OF ABSTRACT
C-----
C SUBROUTINE CMUX1
C INTEGER I9, COMMAND, DATANG, ALTINDX
C NAVIGATION PARAMETERS
C COMMON//HELO(24),TARGNAV(4,22),COMNAV(4,3),SHIPNAV(2,15),
C X SHIPCOM(3,3),CONVOY(4,2),REFY(3),HFLOST(2,15),NAV(20)
C X ,FTPNV(4,3),TIME
C X ,FTPE(4),WIND(2),IAUTMAD(2)
C X ,NHOUS,MINUTES,NSECS
C X ,ITUNE,JARUFF(64,5,2)
C X ,ITCONI,JOWN,JSUB,MADAUTO(13)
C X ,IPICCR,JPILOT
C X ,JRESET,IPREC(67),CX,CY
C X ,TIMTICK,IRPTOTR,PLOTXZR,PLQTYZR,MISSION
C REAL NAV
C COMMON//DEFAUT//HELO(15),TARGIC(9,4),OMNSIC(7,2),SONOIC(3,4),
C X TRECFL,JCRUN,JPRINT,NB1,INR,IOUTR,NPC,NBSIZ,SCI(10,6),
C X NBOA(12),NRCN,NSUFEN,WHEN,
C X ,IDECER,IFRIC,IOCEPR,IEP2C,
C X ,ITGDET,DELXTIC,DELYTIC,
C X BUOYIC(2,32),DATUMIC(4),ISCALIC,ICFFIRST,MOOFSIM,ICOTMCS
C-----TACTICAL DISPLAY PARAMETERS
C COMMON//REFMLL(8,4),ATCREP(2,4),DATUM(5),DIFAR(5,6)
C X ,CSROCR(4,6),XMACNT(4,3),CONIAC (10,6),ENGCI(4,4),CURSOR(6,4)
C X ,SENSHOR,FXDES(3,6),TORPED(3,2),PREDDPS(3),POINTER(2),EXPCIR(6)
C X ,XONTOP(3),TRACKS(3,3,6),WEAFIP(5),SHETRKU,TCKSCHP(3,6)
C COMMON//SYFLG/IS*KNCT,IFIPONT,JREFCNT,IALCNT,IOFFCNT
C X ,ICASONT,IMADONT,ICNONT,IPRCNT,ICURCNT,IFIXCNT,IONTCP
C X ,IPCNTER,IMADONT,ISNFCDS,ITOPDS,IPRDPDS,IEXPONT,ICSRDFG
C X ,IHELCPUR,IRNGEDG,INTEF
C COMMON//TACFLG/ATRKIME,IHLONTL,IHELCPUR,IOATLTK
C X ,IPAICOR,INKVEPF,HKTIME,ICNICEF,NPFHOCR,IOSPTE,IOYCOS,MSKALRT
C-----ACOUSTIC MODEL TABLES AND PARAMETERS
C COMMON//BUOYPM(10,32),BUCYNV(10,32),ICH(4),NPNG(4),XPUOYDR
C X ,YBLOYDR,ISONDAY(32),DELIS,NRGONT(4),R1(32),IF2(32),LL
C X ,ANS,C,ITHR(4),NOTCH(4),INTGIM(4),ISELBY
C X ,MASTRE(32,2),IAAGPHD(4),ISCNCLN,MAXBUOY,IRFCH(4)
C X ,IACSTS,CASSTIM,CASSOPR,IAUTC(4),IAUTCCH
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X , IPASCUT(4), JTRCE(2,2,4), JHPPG(2), IPHNDAT(4), IACDATX(4)
X , IACDATY(4), IPSVCLR(4), IBCVCTI, IDFX(4)
C-----RADAR PANEL TABLES AND PARAMETERS
COMMON ACPEIME, AZSKNLM, CLUTTER, DELXI, DELYI, DELZI, OLTPHJR,
* GRAZANG, IPDSYMB, ICFAR, IFEPSIS, ISDFILE(120), IRDDEC(31), IRDPIDX,
$ IRDMOE, IRDSIZE, IFEYUEN(30), IRDRSC, ISEASTS, ITGYN,
* JRD, NPD, PD, PHIR, PCNOISE, RORNGNM, SF(5), SIGMA, SIGMAO,
* XINLSFA(9), VINLSF(9), XSN, YEPD, XRDGNT, YRDGNT, DCL13, DCL23,
* DCL33, SNPHIF, CSHPH, CSXLDZI, GMLMQAC(21), SAOCPOS(9)
* , XDRCCYC, IR12, M3(21), XFA(21), YFA(21), ISIZE, IFAIL(9), FARNGLM
C-----ESM TABLES
COMMON IEMIT(100,3), IIRKEL(100), ILI3, INTYESM(4)
C-----PASSIVE MODEL DATA STORAGE AREA
COMMON/IOCTAVE(4), AKFR, NUBIN, COSB(16), SINB(16), SIG(16), NOIS(16),
X SIGNAL(16,3,4), COSD(16,3,4), SIND(16,3,4), ANAPR(16,8), FI(8,4),
X AQU, SANGER, CVRANG, KESVTH,
X IVERN(2,8,4), FELOG(8,4), ALGAKFR, ALGAKFV, ALGTWO, IFRANT, AKFRV
COMMON // ION, GAMMAS, BEKFTP, KVALFTP, IDAN(2)
COMMON /HORIZN/ HOSLIM
COMMON /CONST/ AMCONS(15)
COMMON // NIUIBUF(10), NIUCBUF(17), NIUTBUF(40),
* MSPIBUF(40), MSPORUF(17), MSPIBUF(40)
* , MADDISPI(2), IDSPACU(4), MUXIBUF(50), MUXOBUUF(17)
* , MUXABUF(256), MUXIRUF(40), KATORUF(1024), KSORBUF(1024)
* , NIUEIT, MSPBIT, MUXBIT(2)
* , TAGFANG, TACREAS, ITACVAL, STKATQ(2), STKS0(2)
COMMON /COMCMUX/ EBUFCNT, FHDPRPO
COMMON /COMCMUX/ IPRCNT, IFLCCR, PESETTR, HSIN(4)
* , HCOS(4), MMSGDAT(256), KMSG
* , KSLFTST
COMMON/BUFLAG/IRFUL1(13), IRFUL2(13)
COMMON/ERRFLAG/IXERRSP(3)
DATA IPRCNT, PESETTR, IFLCCR, IPASS, KMSG
* , 0 , 0 , 0 , 0 , 1 , 0 , 0 /
DATA KSLFTST /0/
C-----
C MAIN LOOP FOR INPUT PROCESSING
C-----
C IF SOMETHING IN THE INPUT BUFFER
C IF ( MUXIRUF(INIDX) ) 90,90,90
C THEN
C RESET STATUS SENT FLAG
C IRFUL1(3) = 0
C ELSE
C 90 CONTINUE
C ENDF
C DOWHILE SOMETHING IN INPUT BUFFER
C INIDX = 1
C ALTINX = 1
C 100 CONTINUE
C IVALUE = MUXIRUF(INIDX)
C IF ( IVALUE ) 125,2000,125
C-----
C CRACK COMMAND INTO BASIC FIELDS
C-----
```



```
125      CONTINUE
      COMMAND = AND( 378, SHIFT(IVALUE,55))
      DATAC = AND( 378, IVALUE)
      TR = AND( 13, SHIFT(IVALUE,50))
      MUXPUF(INPNCX) = 0
      INPNCX = INPNCX + 1
      CASE OF AOP COMMAND WORD (COMMAND)
      IF (COMMAND) 100,140,500
      *COMMAND EQ. 0
      -----
      CASE OF MORE/DISCRETE COMMAND (DATAC)
      -----
      CONTINUE
      IF (DATAC-1) 200,150,200
      *DATAC EQ. 1
      -----
      INITIALIZE TERMINAL
      -----
      CONTINUE
      IPRCNT = 0
      RESET SELF-TEST COUNTER/FLAG
      KSLFTST = 0
      IDAK(1) = IDAK(1) .OR. 48
      IDAK(2) = IDAK(2) .OR. 48
      I3FUL2(3) = 0
      GO TO 1200
      CONTINUE
      IF (DATAC-3) 250,220,250
      -----
      *DATAC EQ. 3
      INITIALIZE SELF-TEST
      -----
      SET SELF-TEST COUNTER TO MAXIMUM
      CONTINUE
      KSLFTST = 150
      IDAK(1) = IDAK(1) .OR. 48
      IDAK(2) = IDAK(2) .OR. 48
      I3FUL2(3) = 0
      GO TO 1200
      CONTINUE
      IF (DATAC-4) 1200,275,1200
      -----
      *DATAC EQ. 4
      INITIATE PROCESSING
      -----
      SET PROCESSING INITIATED AND DATA REQUESTED FLAGS
      CONTINUE
      IPRCNT = -1
      GO TO 1200
      END CASE
      CONTINUE
      IF (COMMAND-6) 700,550,700
      *COMMAND EQ. 6
      MULTI-MESSAGE TRANSFER
      -----
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170 C-----
C 550 DO WHILE ANOTHER WORD IN ALTERNATE CMUX BUFFER
      CONTINUE
      DO 600 K=1,32
        TRANSFER WORD TO MULTI-MESSAGE HOLD BUFFER
        KMSG = KMSG + 1
        MSGCAT(KMSG) = MUXARUF(ALTINDX)
        ALTINDX = ALTINDX + 1
      600 CONTINUE
      C 600 ENDDO
      ELSE
        GO TO 1200
      700 CONTINUE
      IF (COMMAND-1) 1200,750,1200
      *COMMAND EQ. 1
      NORMAL DATA TRANSFER
      C-----
      IF AYK IS REQUESTING DATA
      185 C-----
      CONTINUE
      IF (TR) 900,775,800
      THEN
        SET DATA REQUESTED FLAG
        CONTINUE
        IBFUL2(3) = 0
        GO TO 1100
      ELSE
        CONTINUE
      195 C 800 IF DATA WORD COUNT FIELD IS ALL ZEROS
        IF (DATAWC) 900,850,900
        THEN
          CHANGE WORD COUNT TO 32
          CONTINUE
          DATAWC = 32
        ELSE
          LEAVE DATA WORD COUNT AS IS
          CONTINUE
        200 C 850 ENDDO
        900 CONTINUE
        ENDDO
        DO WHILE ANOTHER DATA WORD IS AVAILABLE
          DO 1000 K=1,DATAWC
            TRANSFER INPUT WORD TO HOLD BUFFER
            KMSG = KMSG + 1
            MSGCAT(KMSG) = MUXIBUF(INPINDX)
            ZERO INPUT BUFFER
            MUXIBUF(INPINDX) = 0
            INPINDX = INPINDX + 1
          1000 CONTINUE
          ENDDO
        215 C-----
        PROCESS THE COMPLETED DATA TRANSFER
        CALL CMUXCOT
        ZERO THE HOLDING BUFFER FOR COMPLETE DATA TRANSFERS
        220 C-----

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CMUX1 102
CMUX1 103
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CMUX1 156

157	CMUX1	CONTINUE	KMMMSG = 0
158	CMUX1	ENDIF	
159	CMUX1	CONTINUE	
160	CMUX1	ENDIF	
161	CMUX1	END CASE	
162	CMUX1	ENDIF	
163	CMUX1	2000 CONTINUE	
164	CMUX1	END	
165	CMUX1	END	
166	CMUX1	SAVE 4 SETS OF HEADING SIN/COS	
167	CMUX1		
168	CMUX1	HSIN(IPASS) = HELO(3)	
169	CMUX1	HCOS(IPASS) = HELO(2)	
170	CMUX1	IPASS = 1 + AND(IPASS, 3)	
171	CMUX1		
172	CMUX1	END CF PROGRAM	
173	CMUX1	RETURN	
174	CMUX1	END	
175	CMUX1		

RELOCATION

VARIABLES SN TYPE

4231	DLTPHIR	REAL	REFS	59
0	EBUFONT	REAL	REFS	82
1	SHORMPD	REAL	REFS	82
2301	EXPCIP	REAL	REFS	40
4753	FARNGLM	REAL	REFS	50
11107	FI	REAL	REFS	69
2244	FIXDES	REAL	REFS	40
11253	FRLOG	REAL	REFS	69
355	FTPE	REAL	REFS	22
340	FTPNAY	REAL	REFS	22
11321	GAMMAS	REAL	REFS	73
4602	GMLMDAC	REAL	REFS	59
4232	GRAZANG	REAL	REFS	59
11	HCO'S	REAL	REFS	83
0	HELO	REAL	REFS	233
0	HELOIC	REAL	REFS	233
256	HELOST	REAL	REFS	22
6	HKTIME	REAL	REFS	22
0	HORLIM	REAL	REFS	48
5	HSIN	REAL	REFS	74
4126	IAAGPMD	INTEGER	REFS	87
4202	IACDATY	INTEGER	REFS	51
4206	IACDATY	INTEGER	REFS	51
4140	IACSTS	INTEGER	REFS	51
3	IATLCNT	INTEGER	REFS	51
363	IAUTHAD	INTEGER	REFS	44
4143	IAUTC	INTEGER	REFS	22
4147	IAUTOCH	INTEGER	REFS	51
0	IRFUL1	INTEGER	REFS	51
15	IRFUL2	INTEGER	REFS	51
4216	IBOYCNT	INTEGER	REFS	86
5	ICASCNT	INTEGER	REFS	94
370	ICDTMDS	INTEGER	REFS	135
4234	ICFAR	INTEGER	REFS	148
366	ICFIRST	INTEGER	REFS	192
3627	ICH	INTEGER	REFS	51
4176	ICHNGAT	INTEGER	REFS	51
7	ICCNONT	INTEGER	REFS	51
22	ICSDPFG	INTEGER	REFS	44
11	ICURCNT	INTEGER	REFS	44
12	ICYCOS	INTEGER	REFS	44
3	IDATLNK	INTEGER	REFS	48
15	IDATUM	INTEGER	REFS	48
11324	IDAW	INTEGER	REFS	44
254	IDC2ERR	INTEGER	REFS	133
252	IDECERR	INTEGER	REFS	134
4	IDFRONT	INTEGER	REFS	146
4217	IDFX	INTEGER	REFS	147
11	IDSFIP	INTEGER	REFS	44
11574	IDSPACU	INTEGER	REFS	48
4754	IEMIT	INTEGER	REFS	76
253	IER1C	INTEGER	REFS	67
255	IER2C	INTEGER	REFS	33

DEFINED
232233
233

DEFINED

232

DEFINED
94135
148

DEFINED

133

146

147

RELOCATION

VARIABLES SN TYPE

21	IEXPNT	INTEGER	SYNPLG	REFS	103	116	210	212	213	214	234	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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SUBROUTINE CMUX1

CDC 6600 FPN V2.0-P340 CPT=1 7/2/66/12. 15.45.44.

PAGE

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VARIABLES	SN	TYPE	RELOCATION	ARRAY	REFS	112	113	114	DEFINED	115	210	212
3641	ISONDAT	INTEGER	//	ARRAY	REFS							
4132	ISONCLN	INTEGER	//		REFS							
16361	ITACVAL	INTEGER	//		REFS							
1571	ITGONT	INTEGER	//		REFS							
256	ITGDET	INTEGER	DEFAULT		REFS							
4530	ITGIN	INTEGER	//		REFS							
4011	ITHR	INTEGER	//	ARRAY	REFS							
17	ITORSOS	INTEGER	SYMBOL		REFS							
5430	ITRXPIL	INTEGER	//	ARRAY	REFS							
370	ITUNE	INTEGER	//		REFS							
11153	IVALUF	INTEGER	//		REFS	112	113	114	DEFINED	106		
107	IVERN	INTEGER	//	ARRAY	REFS							
25	IWFTP	INTEGER	//		REFS							
0	IXFRERR	INTEGER	SYMBOL		REFS							
371	JAGUFF	INTEGER	ERREFLAG	ARRAY	REFS							
104	JKRUN	INTEGER	DEFAULT	ARRAY	REFS							
1572	JOWN	INTEGER	//		REFS							
1600	JPLOT	INTEGER	//		REFS							
105	JPRINT	INTEGER	DEFAULT		REFS							
4531	JPRR	INTEGER	//		REFS							
1601	JRESET	INTEGER	//		REFS							
1573	JSUB	INTEGER	//		REFS							
4154	JTRGE	INTEGER	//	ARRAY	REFS							
110	K	INTEGER	//		DEFINED	207						
12353	KATOSUF	INTEGER	//	ARRAY	REFS	171	172	209	210	211		
415	KMSG	INTEGER	COMMON		DEFINED	171	209	221				
11152	KPSVTHR	INTEGER	//		REFS							
4640	KRORCYC	INTEGER	//		REFS							
416	KSLFIST	INTEGER	COMMON		REFS							
14353	KSUBUF	INTEGER	//	ARRAY	REFS		90	132	145			
11323	KVALFTP	INTEGER	//		REFS							
4006	LL	INTEGER	//		REFS							
1574	MADAUTO	INTEGER	//	ARRAY	REFS							
11572	MADDISP	INTEGER	//	ARRAY	REFS							
4026	MASTRF	INTEGER	//	ARRAY	REFS							
4133	MAXBUOY	INTEGER	//		REFS							
366	MINUTES	INTEGER	//		REFS							
1713	MISSION	INTEGER	//		REFS							
15	MSGDAT	INTEGER	COMMON	ARRAY	REFS		172	210				
367	MODESIM	INTEGER	DEFAULT		REFS							
13	MSKALPT	INTEGER	YACFLGS		REFS							
16354	MSPRIT	INTEGER	//	ARRAY	REFS							
11431	MSPRBUF	INTEGER	//	ARRAY	REFS							
11501	MSPRBUF	INTEGER	//	ARRAY	REFS							
11522	MSPRBUF	INTEGER	//	ARRAY	REFS							
11703	MUXABUF	INTEGER	//	ARRAY	REFS							
16355	MUXBIT	INTEGER	//	ARRAY	REFS							
11500	MUXIBUF	INTEGER	//	ARRAY	REFS							
11562	MUXORBUF	INTEGER	//	ARRAY	REFS							
12303	MUXTBUF	INTEGER	//	ARRAY	REFS							
4642	M3	INTEGER	//	ARRAY	REFS							
314	NAV	REAL	//	ARRAY	REFS							
111	NBC	INTEGER	DEFAULT		REFS							

VARIABLES	SN	TYPE	ARRAY	RELOCATION	REFS
233 NSCA		INTEGER		DEFAULT	33
247 NRCM		INTEGER		DEFAULT	33
112 NRS17		INTEGER		DEFAULT	33
250 NBUFFND		INTEGER		DEFAULT	33
106 NR1		INTEGER		DEFAULT	33
365 NHOURS		INTEGER		REFS	22
16353 NIUGIT		INTEGER		REFS	76
11326 NIURUF		INTEGER	ARRAY	REFS	76
11340 NIURUF		INTEGER	ARRAY	REFS	76
11361 NIURUF		INTEGER	ARRAY	REFS	76
5667 NOIS		INTEGER	ARRAY	REFS	69
4015 NOTCH		INTEGER	ARRAY	REFS	51
4532 NPD		INTEGER	ARRAY	REFS	59
3633 NPNG		INTEGER	ARRAY	REFS	51
10 NPFHOCR		INTEGER		YACFLOS	48
3702 NRNGCNT		INTEGER	ARRAY	REFS	51
367 NSECS		INTEGER		REFS	22
5606 NUMBIN		INTEGER		REFS	69
51 OWNISIC		REAL	ARRAY	DEFAULT	33
4533 PD		REAL		REFS	59
4534 PHIR		REAL		REFS	59
1711 PLOTXYZR		REAL		REFS	22
1712 PLOTYZR		REAL		REFS	22
2277 POINTER		REAL	ARRAY	REFS	40
2274 PREDPOS		REAL	ARRAY	REFS	40
4627 RADCSOS		REAL	ARRAY	REFS	59
4535 RCNOISE		REAL		REFS	59
4536 RORNGNM		REAL		REFS	59
1714 REFMILL		REAL	ARRAY	REFS	40
253 REFTP		REAL	ARRAY	REFS	22
4 RESETR		REAL		CONCHUX	88
2173 RNCIP		REAL	ARRAY	REFS	40
3706 R1		REAL	ARRAY	REFS	51
1150 SANGERR		REAL		REFS	69
113 SCT		REAL	ARRAY	DEFAULT	33
2243 SENSOR		REAL		REFS	40
4537 SF		REAL	ARRAY	REFS	59
232 SHIPCOM		REAL	ARRAY	REFS	22
174 SHIPNAV		REAL	ARRAY	REFS	22
2404 SHPTPKU		REAL	ARRAY	REFS	22
5647 SIG		REAL	ARRAY	REFS	40
4544 SIGMA		REAL		REFS	69
4545 SIGMA0		REAL		REFS	59
5707 SIGNAL		REAL		REFS	59
5627 SINB		REAL	ARRAY	REFS	69
7707 SIND		REAL	ARRAY	REFS	69
4577 SNPHIR		REAL	ARRAY	REFS	59
67 SONOIC		REAL	ARRAY	REFS	33
16362 STKATO		REAL	ARRAY	DEFAULT	76
16364 STKSO		REAL	ARRAY	REFS	76
16360 TACBEAR		REAL		REFS	76
16357 TACRANG		REAL		REFS	76
5 TARGIC		REAL	ARRAY	REFS	33
30 TARGNAV		REAL	ARRAY	DEFAULT	22

SUBROUTINE CMUX1

VARIABLES	SN	TYPE	RELOCATION	DEF LINE	REFERENCES
354 TIME	REAL	22	22		
1707 TINTICK	REAL	22	22		
2266 TORPED	REAL	40	40		
112 TR	INTEGER	REFS	REFS		
2311 TRACKS	REAL	REFS	REFS		
2405 TRCKSHIP	REAL	REFS	REFS		
0 TRKTIME	REAL	REFS	REFS		
4641 TR12	REAL	REFS	REFS		
2377 WEAFTP	REAL	REFS	REFS		
251 WHEN	REAL	REFS	REFS		
361 WIND	REAL	REFS	REFS		
3637 XBUOYDR	REAL	REFS	REFS		
4667 XFA	REAL	REFS	REFS		
4546 XINLSEA	REAL	REFS	REFS		
2063 XHADCNT	REAL	REFS	REFS		
2306 XONTOP	REAL	REFS	REFS		
4572 XRDONTR	REAL	REFS	REFS		
4570 XSN	REAL	REFS	REFS		
4571 YBPD	REAL	REFS	REFS		
3640 YBUOYDR	REAL	REFS	REFS		
4714 YFA	REAL	REFS	REFS		
4557 YINLSEA	REAL	REFS	REFS		
4573 YRDONTR	REAL	REFS	REFS		

EXTERNALS TYPE ARGS REFERENCES

CMUXGDT 219

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	112	113
SHIFT	NO TYPE	2	112	114

STATEMENT LABELS DEF LINE REFERENCES

0 80	INACTIVE	99	95	
5 90	INACTIVE	100	2*95	
0 100	INACTIVE	105		
0 125	INACTIVE	111	2*107	
0 140	INACTIVE	123	118	
0 150	INACTIVE	129	124	
27 200	INACTIVE	137	2*124	
0 220	INACTIVE	144	139	
36 250	INACTIVE	150	2*138	
0 275	INACTIVE	157	151	
41 500	INACTIVE	161	2*118	
0 550	INACTIVE	168	162	
0 600	INACTIVE	174	169	
52 700	INACTIVE	178	2*162	
0 750	INACTIVE	187	179	
0 775	INACTIVE	191	188	
56 800	INACTIVE	195	2*188	
0 850	INACTIVE	200	197	
60 900	INACTIVE	204	2*197	
0 1000	INACTIVE	214	207	
73 1100	INACTIVE	222	193	
73 1200	INACTIVE	224	136	

149 2*151 150 177 2*179

CDC 6600 FTN V3.0-P360 OPT=1 7/8/05/12. 15.45.44.

SUBROUTINE CMUX1

STATEMENT LABELS

73 2000

DEF LINE REFERENCES
227 107

FROM-TO	LENGTH	PROPERTIES
169 174	58	INSTACK
207 214	59	INSTACK

MEMBERS - PIAS NAME=(LENGTH)

COMMON BLOCKS	INDEX	LENGTH
45 600	K	7414
53 1000	K	
0		
124 SHIPNAV(30)		
171 REFTP (3)		
224 FYPNAV (12)		
241 WIND (2)		
246 MINUTES (1)		
249 JAGUFF (640)		
891 JSUB (1)		
896 JPLOT (1)		
955 CX (1)		
968 IRPICTR (1)		
971 MISSION (1)		
1016 CATUM (5)		
1075 XMADENT (12)		
1163 CURSOR (24)		
1206 TOPREC (6)		
1217 EXPCIE (5)		
1279 WEAFIE (5)		
1303 BUOYNAV (320)		
1947 NPN5 (4)		
1953 ISONDAT (32)		
1990 R1 (32)		
2055 ANS (1)		
2061 NOTCH (4)		
2070 MASTER (64)		
2139 MAXBUOY (1)		
2145 CASSIM (1)		
2151 IAUICCH (1)		
2172 IHFPG (2)		
2192 IACCATY (4)		
2191 IOFY (4)		
2197 CLUTTER (1)		
2200 DELZI (1)		
2203 IPDSYNB (1)		
2206 IRDFILE (120)		
2358 IRDANCE (1)		
2390 IRDRSC (1)		
2393 JPOR (1)		
2396 PHIO (1)		
2399 SF (5)		
2406 XINLSEA (9)		
2425 VAPD (1)		
2428 DCL13 (1)		
2431 SNPHIR (1)		
2434 GMLMASC (21)		
2465 TR12 (1)		
2508 YFA (1)		
24 HELC (24)		
124 SHIPNAV(30)		
171 REFTP (3)		
224 FYPNAV (12)		
241 WIND (2)		
246 MINUTES (1)		
249 JAGUFF (640)		
891 JSUB (1)		
896 JPLOT (1)		
955 CX (1)		
968 IRPICTR (1)		
971 MISSION (1)		
1016 CATUM (5)		
1075 XMADENT (12)		
1163 CURSOR (24)		
1206 TOPREC (6)		
1217 EXPCIE (5)		
1279 WEAFIE (5)		
1303 BUOYNAV (320)		
1947 NPN5 (4)		
1953 ISONDAT (32)		
1990 R1 (32)		
2055 ANS (1)		
2061 NOTCH (4)		
2070 MASTER (64)		
2139 MAXBUOY (1)		
2145 CASSIM (1)		
2151 IAUICCH (1)		
2172 IHFPG (2)		
2192 IACCATY (4)		
2191 IOFY (4)		
2197 CLUTTER (1)		
2200 DELZI (1)		
2203 IPDSYNB (1)		
2206 IRDFILE (120)		
2358 IRDANCE (1)		
2390 IRDRSC (1)		
2393 JPOR (1)		
2396 PHIO (1)		
2399 SF (5)		
2406 XINLSEA (9)		
2425 VAPD (1)		
2428 DCL13 (1)		
2431 SNPHIR (1)		
2434 GMLMASC (21)		
2465 TR12 (1)		
2508 YFA (1)		
24 YARGNAV(48)		
154 SHIPCOM(9)		
174 HELCST (20)		
235 TIME (1)		
243 IAUTMAD(2)		
247 NSECS (1)		
889 ITGNT (1)		
892 MADAUTO(3)		
897 JRESEY (1)		
865 CY (1)		
969 PLCTX7R(1)		
972 REFMLL (32)		
1021 OIFAP (30)		
1087 CONTAC (60)		
1187 SENSFOR(1)		
1212 POFPOS(3)		
1222 XONTOP (3)		
1284 SHPREKUT(1)		
1623 BUOYNAV(320)		
1941 YRQVYDP(1)		
1985 DELTS (1)		
2022 IP2 (32)		
2056 C (1)		
2065 INTGIM(4)		
2134 IAGFMD(4)		
2140 YPECH (4)		
2146 CASSPER(1)		
2152 YPASOUT(4)		
2174 ICHNDAT(4)		
2185 IPSVCLP(4)		
2195 ACPRIME(1)		
2198 DELXI (1)		
2201 OLYCHIR(1)		
2204 IOFAP (1)		
2326 IPDPOEC(31)		
2359 IROSIZE(1)		
2391 ISEASTE(1)		
2394 NPD (1)		
2397 RONDISF(1)		
2404 SIGMA (1)		
2415 VINLSEA(9)		
2426 XPOCNTQ(1)		
2429 DCL23 (1)		
2432 SS-HP (1)		
2455 RADCRCS(9)		
2466 M3 (121)		
2529 ISTZE (1)		
112 COMNAV (112)		
153 COMVOY (18)		
204 NAV (120)		
237 FTER (14)		
245 NHOURS (1)		
248 ITUNE (1)		
890 JOWN (1)		
895 ITCORP(1)		
898 ITCREC (57)		
867 TIMTICK(1)		
970 PLCTV7P(1)		
1004 ATORPEF (12)		
1061 CSEPCS (24)		
1147 PNCIO (16)		
1188 FIXES (18)		
1215 PCINTEP(2)		
1225 TRCKS (154)		
1245 TRCKSHE(18)		
1343 ICH (4)		
1952 YRUCYCP(1)		
1946 NRVGNT(14)		
2054 LL (1)		
2057 ITHP (4)		
2069 ISELAY (1)		
2138 ISCOLN(1)		
2144 IADSI (1)		
2147 TRUTC (4)		
2156 JTSCE (116)		
2178 IACDAX(4)		
2180 IPOYCN(1)		
2186 AZSCNLM(1)		
2199 DELYT (1)		
2202 GRATANG(1)		
2205 IPESTIS(1)		
2357 ITRUCY(1)		
2360 IRETURN(30)		
2392 ITGNT (1)		
2395 PD (1)		
2398 FORNGM(1)		
2435 SIGMAO (1)		
2434 XSN (1)		
2427 YRCNTR(1)		
2430 DCL13 (1)		
2437 CSXLCZI(1)		
2464 KPOFCYC(1)		
2487 YFA (121)		
2530 IFAIL (19)		

SUB TIME CMUX1

PAGE 13

COC 6800 TYN V1.0-0780 OPT=1 7/10/12. 15.45.44.

COMMON BLOCKS LENGTH MEMBERS - PIAS NAME(LENGTH)

2530 FARGLM(1)	2530	2530	2530
2940 ILIB (1)	2940	2940	2940
2949 AKFR (1)	2949	2949	2949
2967 SINA (16)	2967	2967	2967
3015 SIGNAL (512)	3015	3015	3015
4551 ANAPF (128)	4551	4551	4551
4712 SANGER(1)	4712	4712	4712
4715 TVEEN (64)	4715	4715	4715
4812 ALGAKFV(1)	4812	4812	4812
4815 AKFRV (1)	4815	4815	4815
4818 PERFC (1)	4818	4818	4818
4822 NIUBUF(17)	4822	4822	4822
4849 MSPIB(40)	4849	4849	4849
4936 MADDISP(2)	4936	4936	4936
5042 MUXCRF(17)	5042	5042	5042
5355 KATCRUF(1024)	5355	5355	5355
7404 MSBIT (1)	7404	7404	7404
7408 TACHEAR(1)	7408	7408	7408
7412 STKSO (2)	7412	7412	7412
0 HELCIC (5)	0	0	0
55 SONCIC (12)	55	55	55
69 JPRINT (1)	69	69	69
72 IOUTR (1)	72	72	72
75 SCT (99)	75	75	75
168 MNUFFKD(1)	168	168	168
171 IERIC (1)	171	171	171
174 ITGET (1)	174	174	174
177 RUOVIC (64)	177	177	177
246 IOFIRST(1)	246	246	246
0 ISMKCNT(1)	0	0	0
3 IATLCNT(1)	3	3	3
6 IMACCNT(1)	6	6	6
9 IQUFCNT(1)	9	9	9
12 IPONTER(1)	12	12	12
15 ITORPS (1)	15	15	15
18 ICSPQFG(1)	18	18	18
21 IMFYP (1)	21	21	21
0 YKTIME(1)	0	0	0
3 IDAILAK(1)	3	3	3
6 HXTIME (1)	6	6	6
9 YDSETP (1)	9	9	9
0 HORLIM (1)	0	0	0
0 AMOCNS (16)	0	0	0
0 EQUFCNT(1)	0	0	0
3 IPLCCCP(1)	3	3	3
9 HCOS (4)	9	9	9
270 KSLSTST(1)	270	270	270
0 IAFUL1 (13)	0	0	0
0 IXFRERP(13)	0	0	0

STATISTICS

PROGRAM LENGTH	1118	73
COMMON LENGTH	11308	600
BLANK COMMON	163668	7414

2540 IEMTY (300)	2540	2540	2540
2941 INTVESM(4)	2941	2941	2941
2950 NURTKN (1)	2950	2950	2950
2951 COSR (16)	2951	2951	2951
2959 NOIS (16)	2959	2959	2959
3027 COSD (512)	3027	3027	3027
4679 FT (32)	4679	4679	4679
4713 CHNAGE(1)	4713	4713	4713
4773 FRLOG (72)	4773	4773	4773
4813 FLTWC (1)	4813	4813	4813
4816 ION (1)	4816	4816	4816
4819 KVALFYP(1)	4819	4819	4819
4832 NIUCRUF(17)	4832	4832	4832
4829 MSORLF(17)	4829	4829	4829
4988 IPSACU(4)	4988	4988	4988
5059 MUXABUF(256)	5059	5059	5059
6379 KSORUF (1024)	6379	6379	6379
7405 MUXBIT (2)	7405	7405	7405
7409 ITACVAL (1)	7409	7409	7409
5 YARCIC (38)	5	5	5
67 IRECFIL (1)	67	67	67
70 NS1 (1)	70	70	70
73 N2C (1)	73	73	73
155 NBGA (12)	155	155	155
169 WHEN (1)	169	169	169
172 IOC2ERR(1)	172	172	172
175 DELXIC(1)	175	175	175
241 DATUMIC(4)	241	241	241
247 MDPSTIM(1)	247	247	247
1 IFTCNT(1)	1	1	1
4 IUPCNT(1)	4	4	4
7 ICCCNT(1)	7	7	7
10 IFXCNT(1)	10	10	10
13 IGATUM (1)	13	13	13
16 IPDPOS(1)	16	16	16
19 IHELCDUR(1)	19	19	19
1 IHLNTL(1)	1	1	1
4 IPATCOP(1)	4	4	4
7 IONTOPF(1)	7	7	7
10 ICVRDS (1)	10	10	10
1 FHDPRD(1)	1	1	1
4 RESETR(1)	4	4	4
13 MMSGDAT(256)	13	13	13
13 IRFUL2 (12)	13	13	13

PRINTED ON 12/12/12


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C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPEIME, A7SONUM, CLUTTER, DELXI, DELYI, DELZI, OLIPHIP,
* GRAZANG, IPOSVAR, ICFAR, IPEPIS, IPOFILE (120), IPORRHO (31), IPORIOX,
* IRORRNF, IROSIZE, ISFVUEN (10), IPUSCO, ISEASF, IIGIN,
* JPRR, NPD, PD, PHIR, SGNOSISE, PDENGN, SF (5), SIGMA, SIGMAC,
* XINLSEA (9), VINLSEA (9), XSN, YCPG, XPGCNR, YRDNTR, DCL13, DCL23,
* DCL33, SNPHIR, CSHPH, CSXLDZI, GULMOC (21), RANCROS (6),
* KRCPVC, IR12, M3 (21), YFA (21), ISIZE, IFAIL (9), FARANGLM
C-----ESM TABLES
COMMON IEMT (100, 3), ITRKFL (100), ILIR, INVESM (4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON //IOCTAVE (4), AKFR, NUMIN, COSB (16), SINB (16), SIG (16), NOIS (16),
X SIGNAL (16, 8, 4), COSD (16, 8, 4), SIND (16, 8, 4), ANAR (16, 8), FI (8, 4),
X AOU, SANGERR, CWRANGE, KESVTHR,
X IVERN (2, 8, 4), FPLCCG (8, 4), ALGAKFR, ALGAKFRV, ALGTNO, IFRANC, AKFRV
COMMON // ION, GAMMAS, REFTYP, KVALFYP, IDAM (2)
COMMON /HORIZN/ HORLIN
COMMON /CONST/ AMCONS (16)
COMMON // NIURUF (10), NIUCBUF (17), NIUTBUF (40),
* MSP3BUF (40), MSPORUF (17), MSPTRUF (40)
* * MADDISP (2), IDSPARU (4), MUXIBUF (50), MUXORUF (17)
* * MUXARUF (256), MUXTRUF (40), KATOBUF (1024), KSOBUF (1024)
* * NIUGIT, MSPBIT, MUXBIT (2)
* * TACFRANG, TACSEAR, ITACVAL, SIKATO (2), STKSOU (2)
COMMON /COMCMUX/ EBUCNT, EPCWOP
COMMON /COMCMUX/ IPROINT, IPLCCG, PSEITP, WSIN (4)
* * HCO (4), MMSGOAT (256), KMSG
* * KSLFIST
COMMON /BUFFLAG/ IREFUL (13), IREFUL2 (13)
COMMON /ERRFLAG/ IRRERR (3)
DATA KATOPWA, KSOFWA, KATOSI7, KSOSI7
* / 2000R, 3000R, 1000R, 1000R, 1000R /
DATA MUXCOE /100000R /
EXITFLG = 0
C IF PROCESSING NOT INITIATED OR SELF-TEST IN PROGRESS
C THEN
C SET EXIT FLAG
C CONTINUE
C EXITFLG = 1
C ELSE
C CONTINUE PROCESSING
C CONTINUE
C ENDDIF
C-----
C-----EXTRACT BUFFER COUNT FROM HEADER WORD 1
KBUFCNT = ANO (7770, MMSGOAT (1))
C IF BUFFER COUNT IN ERRCO
IF (KBUFCNT - KMSG (170, 60, 70)
60 IF (KBUFCNT - 256) 100, 100, 70
C THEN
C SET BUFFER COUNT ERROR FLAG
C CONTINUE
C EMUFCNT = 1

```



```
170      CONTINUE
          C 450
          HEADER WORD = BREAKDOWN
          IF(ONE = AND(3, SHIFT(MMSGDAT(KMSG+1), 55)
            ) + 1
            DATA = AND(178, SHIFT(MMSGDAT(KMSG+1), 48))
            YSPACU(IZ(NE) = ICATA
          ELSE
            GO TO 1200
          CONTINUE
          IF(ITYPE-1)1600,505,600
          *ITYPE EQ. 1
          DISPLAY DATA BIT CODE IS 0001
          MAC DISPLAY DATA
          SET MAC DATA FLAG
          CONTINUE
          MACDISP(1) = 1
          SAVE RE-SCALE FACTOR
          MACDISP(2) = MMSGDAT(KMSG+2), AND.3B
          GO TO 1200
          CONTINUE
          IF(ITYPE-4)900,650,930
          *ITYPE EQ. 4
          DISPLAY DATA BIT CODE 0100
          ATO DISPLAY DATA
          EXTRACT ATO BUFFER ADDRESS
          CONTINUE
          KSTART = MMSGDAT(KMSG+1) - KATOFWA
          KEND = KSTART + KBLKENT - 1
          IF UNREASONABLE ADDRESS
          IF(KSTART)685,685,675
          IF(KEND-KATOSIZ)700,700,685
          THEN
            SET HEADER WORD ERROR FLAG
            CONTINUE
            ERRORCG = 1
            SET EXIT FLAG
            EXITFLG = 1
            GO TO 850
          ELSE
            CONTINUE
            K1 = KMSG + 2
            DO WHILE ATO DATA REMAINS IN THIS BLOCK
            DO 800 K=KSTART, KEND
              TRANSFER DATA TO ATO DISPLAY BUFFER
              KATORBUF(K) = MMSGDAT(K1)
              K1 = K1 + 1
            CONTINUE
            ENDDO
            CONTINUE
            ENDIF
            GO TO 1200
          C 850
          C 900
          C 930
          C 675
          C 685
          C 700
          C 205
          C 210
          C 215
          C 220
```

```

900      CONTINUE
          IF(IITYPE-2)1190,950,1190
          *IITYPE EG. 2
          DISPLAY DATA BIT CODE IS 0010
          -----
          SO DISPLAY DATA
          -----
          EXTRACT SO BUFFER ADDRESS
          -----
          CONTINUE
          KSTART = MMSGDAT(KMSG+1) - KSOFMA
          KEND = KSTART + KBLKCNT - 1
          IF UNREASONABLE ADDRESS
          IF(KSTART)980,975,980
          IF(KEND-KSCSIZ)1000,1000,900
          THEN
              SET HEADER WORD ERROR FLAG
              CONTINUE
              FWORD = 1
              SET EXIT FLAG
              EXITFLG = 1
              GO TO 1150
          ELSE
              CONTINUE
              KI = KMSG + 2
              COMPLETE SO DATA REMAINS IN THIS BLOCK
              DO 1100 K=KSTART,KEND
                  TRANSFER DATA TO SO DISPLAY BUFFER
                  KSOFBUF(K) = MMSGDAT(KI)
                  KI = KI + 1
              CONTINUE
              ENDDO
          CONTINUE
          ENCLF
          GO TO 1200
          *IITYPE NE. 1,2,4 OR 8
          SET HEADER WORD ERROR FLAG
          CONTINUE
          ECHWRD=1
          SET EXIT FLAG
          EXITFLG=1
          CONTINUE
          END OF CASE
          GO TO 1400
          ELSE
              SET HEADER WORD ERROR FLAG
              CONTINUE
              ECHWRD = 1
              SET EXIT FLAG
              EXITFLG = 1
              CONTINUE
          ENDIF
          ADVANCE HOLDING BUFFER POINTER TO NEXT POSSIBLE HEADER
          WORD 2
          KMSG = KMSG + KBLKCNT + 1
          IF(KMSG-1-KSOFCNT)1450,1500,1450
225      C
230      C
235      C
240      C
245      C
250      C
255      C
260      C
265      C
270      C
275      C
          CMUX1 321
          CMUX1 322
          CMUX1 323
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          CMUX1 379
          CMUX1 380
          CMUX1 381
          CMUX1 382
          CMUX1 383
          CMUX1 384
          CMUX1 385

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SUBROUTINE CMXCDY

CDC 6600

VI.0-P340 OPT=1

78/05/12, 15.45.44.

PAGE

```
1450 IF(EXITFLG)1500,200,1500
C      ENDDO
C      ELSE
C      IGNORE DATA IN BUFFER
C      1500 CONTINUE
C      ENDOF
C      RETURN
C      END
```

```
CMUX1 386
CMUX1 387
CMUX1 388
CMUX1 389
CMUX1 390
CMUX1 391
CMUX1 392
CMUX1 393
```

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SUBROUTINE CMXCDT

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES			
1	CMXCDT	18	282		
VARIABLES	SN	TYPE	RELOCATION		
4223 ACPRIME	REAL			REFS	57
5605 AKFR	REAL			REFS	67
11317 AKFRV	REAL			REFS	67
11313 ALGAKFR	REAL			REFS	67
11314 ALGAKFV	REAL			REFS	67
11315 ALGTHO	REAL			REFS	67
11315 AMCONS	REAL			REFS	67
10707 ANARR	REAL	ARRAY	CONST	REFS	77
4007 ANS	REAL	APRAY		REFS	67
11147 AOU	REAL			REFS	49
1754 ATOREF	REAL			REFS	67
4224 AZSCALM	REAL	ARRAY		REFS	78
11322 BERFTP	REAL			REFS	67
261 BUOYIC	REAL	ARRAY		REFS	71
3127 BUOYNV	REAL	APRAY		REFS	31
2427 BUOYRH	REAL	APRAY		REFS	49
4010 C	REAL			REFS	49
4142 CASSPER	REAL			REFS	49
4141 CASSIIM	REAL			REFS	49
4225 CLUTTER	REAL			REFS	57
150 COMNAV	REAL	ARRAY		REFS	20
2077 CONTC	REAL	ARRAY		REFS	38
243 CONVOY	REAL	ARRAY		REFS	20
5607 COSB	REAL	ARRAY		REFS	57
6707 COSO	REAL	ARRAY		REFS	57
4600 CSPHIR	REAL	ARRAY		REFS	57
2033 CSROCR	REAL	ARRAY		REFS	78
4601 CSXLDZI	REAL			REFS	57
2213 CURSOR	REAL	ARRAY		REFS	38
11151 CVRANGE	REAL			REFS	67
1705 CX	REAL			REFS	20
1706 CY	REAL			REFS	20
1770 DATUM	REAL	ARRAY		REFS	38
361 DATUMIC	REAL	ARRAY	DEFAULT	REFS	31
4574 DCL13	REAL			REFS	57
4575 DCL23	REAL			REFS	57
4576 DCL33	REAL			REFS	57
3701 DELTS	REAL			REFS	49
4226 DELXI	REAL			REFS	57
257 DELXTIC	REAL		DEFAULT	REFS	31
4227 DELYI	REAL			REFS	57
260 DELYTIC	REAL		DEFAULT	REFS	31
4230 DELZI	REAL			REFS	57
1775 DIFAR	REAL			REFS	36
4231 DLTPHIR	REAL	ARRAY		REFS	57
0 EBUFCNT	REAL			REFS	60
1 EHORMRD	REAL		COMCMUX	REFS	80
156 EXITFLG	REAL		COMCMUX	REFS	141
				DEFINED	110
				DEFINED	126
				DEFINED	276
				204	80
				238	95
				258	112
				267	135

RELOCATION

SUBROUTINE CMXCOT

VARIABLES

SN TYPE

ARRAY

VARIABLES	SN	TYPE	ARRAY	RELOCATION	260	269
2301	EXCIP	REAL	ARRAY	/ /	249	269
4753	FARGLM	REAL	ARRAY	/ /	38	
11107	FI	REAL	ARRAY	/ /	57	
2244	FIXDES	REAL	ARRAY	/ /	67	
11253	FRLOG	REAL	ARRAY	/ /	38	
355	FTPE	REAL	ARRAY	/ /	67	
340	FTPNV	REAL	ARRAY	/ /	20	
11321	GAMHAS	REAL	ARRAY	/ /	71	
4502	GMLMDAC	REAL	ARRAY	/ /	57	
4232	GRAZANG	REAL	ARRAY	/ /	57	
11	HCOO	REAL	ARRAY	/ /	81	
0	HELOIC	REAL	ARRAY	COMMON	81	
256	HELOST	REAL	ARRAY	/ /	20	
6	HKTIME	REAL	ARRAY	DEFAULT	31	
0	HORLIM	REAL	ARRAY	/ /	20	
5	HSIN	REAL	ARRAY	TACFLGS	46	
4126	IACPMO	INTEGER	ARRAY	HORIZN	72	
4202	IACDAX	INTEGER	ARRAY	COMMON	81	
4206	IACDAX	INTEGER	ARRAY	/ /	49	
4140	IACDAX	INTEGER	ARRAY	/ /	49	
3	IATLNT	INTEGER	ARRAY	/ /	49	
363	IATMAD	INTEGER	ARRAY	SYNFLG	42	
4143	IATMAD	INTEGER	ARRAY	/ /	20	
4147	IATMAD	INTEGER	ARRAY	/ /	49	
0	IBFUL1	INTEGER	ARRAY	/ /	49	
15	IBFUL2	INTEGER	ARRAY	BUFLAG	84	
4216	IBOYCN	INTEGER	ARRAY	BUFLAG	84	
5	ICASCNT	INTEGER	ARRAY	/ /	49	
370	ICDTHOS	INTEGER	ARRAY	SYNFLG	42	
4234	ICFAR	INTEGER	ARRAY	DEFAULT	31	
366	ICFIPST	INTEGER	ARRAY	/ /	57	
3627	ICH	INTEGER	ARRAY	DEFAULT	31	
4176	ICHNDAT	INTEGER	ARRAY	/ /	49	
7	ICNCNT	INTEGER	ARRAY	/ /	49	
22	ICSDFG	INTEGER	ARRAY	SYNFLG	42	
11	ICURCNT	INTEGER	ARRAY	SYNFLG	42	
12	ICVGS	INTEGER	ARRAY	TACFLGS	46	
164	IDATA	INTEGER	ARRAY	/ /	171	
3	IDATLNK	INTEGER	ARRAY	TACFLGS	46	
15	IDATUM	INTEGER	ARRAY	SYNFLG	42	
11324	IDAH	INTEGER	ARRAY	/ /	71	
254	IDCEPR	INTEGER	ARRAY	DEFAULT	31	
252	IDCEPR	INTEGER	ARRAY	DEFAULT	31	
4	IDFCNT	INTEGER	ARRAY	SYNFLG	42	
4217	IDFX	INTEGER	ARRAY	/ /	49	
11	IDSTP	INTEGER	ARRAY	TACFLGS	46	
11574	IDSPACU	INTEGER	ARRAY	/ /	74	
4754	IEMIT	INTEGER	ARRAY	/ /	65	
253	IERIC	INTEGER	ARRAY	DEFAULT	31	
255	IERPC	INTEGER	ARRAY	DEFAULT	31	
21	IERPCNT	INTEGER	ARRAY	SYNFLG	42	
4742	IFAIL	INTEGER	ARRAY	/ /	57	

DEFINED

170

DEFINED

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SUBROUTINE CMUXCOT

VARIABLES		SN	TYPE	RELOCATION	REFS
12	IFIXCNT	INTEGER	SYNPLG	REFS	47
11316	IRAND	INTEGER	/	REFS	47
1	IFTPCNT	INTEGER	/	REFS	42
2	IHELCOPI	INTEGER	TACFLGS	REFS	46
23	IHELCOPI	INTEGER	SYNPLG	REFS	42
4174	IHPFG	INTEGER	ARRAY	REFS	49
5	IHKVERF	INTEGER	TACFLGS	REFS	46
1	IHLGNTL	INTEGER	TACFLGS	REFS	66
5574	IL13	INTEGER	/	REFS	42
6	IHADCNT	INTEGER	SYNPLG	REFS	42
107	INR	INTEGER	DEFAULT	REFS	31
4321	INTGIM	INTEGER	ARRAY	REFS	49
5575	INTVESH	INTEGER	AFRAY	REFS	66
5601	IOCTAVE	INTEGER	ARRAY	REFS	71
11320	ION	INTEGER	/	REFS	42
13	IONTOP	INTEGER	SYNPLG	REFS	42
7	IONTOPF	INTEGER	TACFLGS	REFS	46
110	IOUR	INTEGER	DEFAULT	REFS	31
4150	IPASOUT	INTEGER	ARRAY	REFS	49
4	IPATCOR	INTEGER	TACFLGS	REFS	46
1602	IPCODEC	INTEGER	ARRAY	REFS	20
4235	IPERSIS	INTEGER	/	REFS	57
3	IPLOCOR	INTEGER	CONCMUX	REFS	81
14	IPONTER	INTEGER	SYNPLG	REFS	42
20	IPROPOS	INTEGER	CONCMUX	REFS	81
2	IPROINT	INTEGER	ARRAY	REFS	49
4212	IPSVCLR	INTEGER	/	REFS	29
1577	IPTCOPP	INTEGER	/	REFS	42
10	ISCRNT	INTEGER	SYNPLG	REFS	57
4236	ISROFILE	INTEGER	ARRAY	REFS	57
4426	ISRODEC	INTEGER	ARRAY	REFS	57
4465	ISROIOX	INTEGER	/	REFS	57
4466	ISROMOE	INTEGER	/	REFS	57
4526	ISROSC	INTEGER	/	REFS	57
4467	ISROSIZE	INTEGER	/	REFS	57
4233	ISROSYMB	INTEGER	/	REFS	31
103	ISROCFIL	INTEGER	DEFAULT	REFS	57
2	ISREFCNT	INTEGER	SYNPLG	REFS	57
4470	ISRETURN	INTEGER	ARRAY	REFS	49
4134	ISRECH	INTEGER	ARRAY	REFS	42
24	IRNGFDG	INTEGER	/	REFS	20
1710	IRPTOTR	INTEGER	SYNPLG	REFS	49
3746	IR2	INTEGER	ARRAY	REFS	49
365	ISCALIC	INTEGER	DEFAULT	REFS	57
4527	ISEASTE	INTEGER	/	REFS	49
4025	ISELBY	INTEGER	/	REFS	57
4741	ISIZE	INTEGER	/	REFS	42
0	ISMKCNT	INTEGER	SYNPLG	REFS	49
16	ISNSFOS	INTEGER	SYNPLG	REFS	49
3641	ISONDAT	INTEGER	ARRAY	REFS	74
4132	ISONCLN	INTEGER	/	REFS	20
46361	ITACVAL	INTEGER	/	REFS	31
1571	ITGCNT	INTEGER	/	REFS	49
256	ITGDET	INTEGER	DEFAULT	REFS	20

RELOCATION

VARIABLES

SN

TYPE

RELOCATION

4530	ITGTN	INTEGER	ARRAY	57	REFS	248	DEFINED	212	246	231	197	231
4011	ITHR	INTEGER	ARRAY	49	REFS	214	DEFINED	214	246	151	166	170
17	ITORDS	INTEGER	SYNFLAG	42	REFS	86	DEFINED	86	274	153	156	275
5430	ITRKFIL	INTEGER	ARRAY	65	REFS	200	DEFINED	231	274	153	156	275
370	ITUNE	INTEGER	ARRAY	20	REFS	153	197	231	274	153	156	275
162	ITYPE	INTEGER	ARRAY	158	REFS	108	122	122	274	153	156	275
11153	IVERN	INTEGER	ARRAY	67	REFS	212	246	231	246	231	246	275
25	IXFRERR	INTEGER	SYNFLAG	42	REFS	212	246	231	246	231	246	275
163	IZONE	INTEGER	ERROFLAG	85	REFS	212	246	231	246	231	246	275
371	JABUFF	INTEGER	ARRAY	171	REFS	212	246	231	246	231	246	275
104	JKRUN	INTEGER	ARRAY	20	REFS	212	246	231	246	231	246	275
1572	JOHN	INTEGER	DEFAULT	31	REFS	212	246	231	246	231	246	275
1600	JPILCT	INTEGER	ARRAY	20	REFS	212	246	231	246	231	246	275
105	JPPINT	INTEGER	DEFAULT	31	REFS	212	246	231	246	231	246	275
4531	JPRC	INTEGER	ARRAY	57	REFS	212	246	231	246	231	246	275
1601	JRESET	INTEGER	ARRAY	20	REFS	212	246	231	246	231	246	275
1573	JSUB	INTEGER	ARRAY	20	REFS	212	246	231	246	231	246	275
4154	JTRCE	INTEGER	ARRAY	49	REFS	212	246	231	246	231	246	275
170	K	INTEGER	ARRAY	214	REFS	212	246	231	246	231	246	275
12353	KATOQUF	INTEGER	ARRAY	74	REFS	212	246	231	246	231	246	275
151	KATOFWA	INTEGER	ARRAY	196	REFS	212	246	231	246	231	246	275
153	KATOSIZ	INTEGER	ARRAY	81	REFS	212	246	231	246	231	246	275
161	KBLKONT	INTEGER	ARRAY	196	REFS	212	246	231	246	231	246	275
157	KRUCONT	INTEGER	ARRAY	103	REFS	212	246	231	246	231	246	275
156	KEND	INTEGER	ARRAY	200	REFS	212	246	231	246	231	246	275
415	KMMSG	INTEGER	ARRAY	81	REFS	212	246	231	246	231	246	275
11152	KPSVTHP	INTEGER	ARRAY	67	REFS	212	246	231	246	231	246	275
4640	KPORCYC	INTEGER	ARRAY	57	REFS	212	246	231	246	231	246	275
416	KSLFTST	INTEGER	ARRAY	81	REFS	212	246	231	246	231	246	275
14353	KSOBUF	INTEGER	ARRAY	74	REFS	212	246	231	246	231	246	275
152	KSOFWA	INTEGER	ARRAY	230	REFS	212	246	231	246	231	246	275
154	KSOISZ	INTEGER	ARRAY	234	REFS	212	246	231	246	231	246	275
165	KSTART	INTEGER	ARRAY	197	REFS	212	246	231	246	231	246	275
11323	KVALFTP	INTEGER	ARRAY	196	REFS	212	246	231	246	231	246	275
167	K1	INTEGER	ARRAY	71	REFS	212	246	231	246	231	246	275
4006	LL	INTEGER	ARRAY	214	REFS	212	246	231	246	231	246	275
1574	MADAUTO	INTEGER	ARRAY	249	REFS	212	246	231	246	231	246	275
11572	MADDISP	INTEGER	ARRAY	49	REFS	212	246	231	246	231	246	275
4026	MASTRF	INTEGER	ARRAY	74	REFS	212	246	231	246	231	246	275
4133	MAXBUOY	INTEGER	ARRAY	49	REFS	212	246	231	246	231	246	275
366	MINUTES	INTEGER	ARRAY	49	REFS	212	246	231	246	231	246	275
1713	MISSION	INTEGER	ARRAY	20	REFS	212	246	231	246	231	246	275
15	MMSGOAT	INTEGER	ARRAY	81	REFS	212	246	231	246	231	246	275
367	MODESIM	INTEGER	ARRAY	81	REFS	212	246	231	246	231	246	275
13	MSKALRY	INTEGER	ARRAY	196	REFS	212	246	231	246	231	246	275
16354	MSPBIT	INTEGER	ARRAY	31	REFS	212	246	231	246	231	246	275
11431	MSPIBUF	INTEGER	ARRAY	46	REFS	212	246	231	246	231	246	275

VARIABLES	SN	TYPE	RELOCATION	
11501 NSPQBUF		INTEGER	ARRAY	74
11522 NSPTRUF		INTEGER	ARRAY	74
11703 MUXAPUF		INTEGER	ARRAY	74
16355 MUXBIT		INTEGER	ARRAY	74
160 MUXCODE	*	INTEGER	*UNDEF	122
155 MUXCORE	*	INTEGER		68
11600 MUXIRUF		INTEGER	ARRAY	74
11662 MUXQBUF		INTEGER	ARRAY	74
12303 MUXTRUF		INTEGER	ARRAY	74
4642 M3		INTEGER	ARRAY	57
314 NAV		REAL	ARRAY	20
111 NSC		INTEGER	DEFAULT	31
233 NSCA		INTEGER	DEFAULT	31
247 NSCM		INTEGER	DEFAULT	31
112 NRSIZ		INTEGER	DEFAULT	31
250 NBUFFND		INTEGER	DEFAULT	31
106 NRI		INTEGER	DEFAULT	31
365 NHOURS		INTEGER	ARRAY	20
16353 NIUBIT		INTEGER	ARRAY	74
11325 NIUBUF		INTEGER	ARRAY	74
11340 NIUBUF		INTEGER	ARRAY	74
11361 NIUBUF		INTEGER	ARRAY	74
5667 NOIS		INTEGER	ARRAY	67
4015 NOTCH		INTEGER	ARRAY	49
4532 NPD		INTEGER	ARRAY	57
3633 NPNG		INTEGER	ARRAY	49
10 NRHCCR		INTEGER	ARRAY	46
3702 NRNGCNT		INTEGER	ARRAY	49
367 NSECS		INTEGER	ARRAY	20
5606 NUMBIN		INTEGER	ARRAY	67
51 OWNISIC		REAL	ARRAY	31
4533 PD		REAL	DEFAULT	57
4534 PHIR		REAL	ARRAY	57
1711 PLOTXR		REAL	ARRAY	20
1712 PLOTZR		REAL	ARRAY	20
2277 POINTER		REAL	ARRAY	38
2274 PREDPOS		REAL	ARRAY	38
4627 RADGROS		REAL	ARRAY	57
4535 RCNOISE		REAL	ARRAY	57
4536 RDNGNM		REAL	ARRAY	57
1714 REFMILL		REAL	ARRAY	38
253 REFTP		REAL	ARRAY	20
4 RESETTR		REAL	COMCMUX	81
2173 RNGCIP		REAL	ARRAY	38
3706 P1		REAL	ARRAY	49
11150 SANGERR		REAL	ARRAY	67
113 SCT		REAL	DEFAULT	31
2243 SENSHP		REAL	ARRAY	38
4537 SF		REAL	ARRAY	57
232 SHIPCOM		REAL	ARRAY	20
174 SHIPNAV		REAL	ARRAY	20
2404 SHPTRKU		REAL	ARRAY	38
5647 SIG		REAL	ARRAY	67
4544 SIGMA		REAL	ARRAY	57

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VARIABLES SN TYPE RELOCATION

4545	SIGNAL	REAL	REFS	57
5707	SIGNAL	REAL	REFS	67
5627	SINB	REAL	REFS	67
7707	SINO	REAL	REFS	67
4577	SNPHIP	REAL	REFS	57
67	SONOIC	REAL	REFS	31
16362	STKATO	REAL	REFS	74
16364	STKSO	REAL	REFS	74
16360	TAC3FAP	REAL	REFS	74
16357	TACRANG	REAL	REFS	74
5	TARGIC	REAL	REFS	31
30	TARGNAV	REAL	REFS	20
354	TIME	REAL	REFS	20
1707	TIMTICK	REAL	REFS	20
2266	TORPED	REAL	REFS	38
2311	TRACKS	REAL	REFS	38
2405	TRCKSHIP	REAL	REFS	38
0	TRKTIME	REAL	REFS	46
4641	TR12	REAL	REFS	57
2377	WEAFTP	REAL	REFS	38
251	WHEN	REAL	REFS	31
361	WIND	REAL	REFS	20
3637	XBUOYDR	REAL	REFS	49
4667	XFA	REAL	REFS	57
4546	XINLSEA	REAL	REFS	57
2063	XMADONT	REAL	REFS	38
2306	XONTOP	REAL	REFS	38
4572	XRCNTR	REAL	REFS	57
4570	XSN	REAL	REFS	57
4571	YBPD	REAL	REFS	57
3640	YBUOYDR	REAL	REFS	49
4714	YFA	REAL	REFS	57
4557	YINLSEA	REAL	REFS	57
4573	YRCNTR	REAL	REFS	57

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES

AND	NO TYPE	2	INTQIN	151
SHIFT	NO TYPE	2	INTRIN	168

STATEMENT LABELS

DEF LINE	INACTIV	DEF LINE	REFERENCES
0 40	INACTIV	94	2*91
7 50	INACTIV	98	91
0 60	INACTIV	106	105
15 70	INACTIV	109	2*105
17 100	INACTIV	115	2*106
0 104	INACTIV	121	118
0 105	INACTIV	125	122
27 110	INACTIV	130	2*122
30 120	INACTIV	132	127
32 200	INACTIV	137	2*118
0 210	INACTIV	143	141
34 300	INACTIV	146	276
0 400	INACTIV	155	2*153
0 450	INACTIV	166	158

STATEMENT LABELS

DEF LINE REFERENCES

54	500		174	2*158
0	505	INACTIVE	182	175
62	600		187	2*175
0	650	INACTIVE	195	184
0	675	INACTIVE	200	190
74	685		203	2*169
77	700		209	2*200
0	800		216	212
107	850		218	207
110	900		221	2*118
0	950	INACTIVE	229	222
0	975	INACTIVE	234	233
122	980		237	2*233
125	1000		243	2*234
0	1100		250	246
0	1150		252	241
135	1190		257	2*222
140	1200		261	173
141	1300		266	153
143	1400		270	263
0	1450	INACTIVE	276	2*275
150	1500		280	2*141

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES

104	800	K	212	216	39	INSTACK
132	1100	K	24F	250	39	INSTACK

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

1	7414					
124	SHIPNAV(30)					
171	REFIP(3)					
224	FPMNAV(12)					
241	WIND(2)					
246	MINUTES(1)					
249	JARUFF(640)					
991	JSUR(1)					
996	JPILCT(1)					
995	GX(1)					
968	IPPICTP(1)					
971	MISSION(1)					
1016	DATUM(5)					
1075	XMARCNT(12)					
1163	CUSCOR(24)					
1206	TOPREF(6)					
1217	EXPCIS(5)					
1279	WEAFIP(5)					
1303	RUOYPA(320)					
1947	NPNG(4)					
1953	ISONDAT(32)					
1990	PI(32)					
2055	ANS(1)					
2061	NOICH(4)					
2070	MASTRF(64)					
2139	MAXBUCY(1)					

24	TARGNAV(88)				
154	SHIPCOM(9)				
174	HELOST(70)				
236	TIME(1)				
243	IAUTWAD(2)				
247	NSECS(1)				
883	ITGENT(1)				
892	MADAUTO(3)				
897	JREFSET(1)				
966	CY(1)				
969	FLORYZP(1)				
972	REFMLL(32)				
1021	DIFAR(80)				
1087	CCNTAC(60)				
1187	SENSHOR(1)				
1212	PENPOIS(3)				
1222	XONTOP(3)				
1284	SHTPRK(1)				
1623	PUOYNAY(320)				
1951	XBUOYPO(1)				
1995	DELYS(1)				
2022	IP2(32)				
2056	C(1)				
2065	INTGIM(4)				
2134	TAAGPMD(4)				
2140	IRFOH(4)				

112	CCMNAV(12)				
163	CONVOY(8)				
204	NAV(20)				
237	FTPE(4)				
245	NHOURS(1)				
248	ITUNE(1)				
890	JCWA(1)				
895	IFTCOR(1)				
898	IPCCFC(167)				
967	TIMTICK(1)				
970	PLOTY7R(1)				
1004	ATOCFF(12)				
1051	TSRCCO(24)				
1147	ENGCI(16)				
1168	FIXDES(18)				
1215	PCTINTER(2)				
1225	TFACKS(54)				
1285	TRCKSHF(18)				
1943	TOH(14)				
1952	VBUCYDR(1)				
1996	NNGCNT(4)				
2054	LL(1)				
2057	ITFF(14)				
2069	TSELBY(1)				
2138	ISCNCLN(1)				
2144	IACSLIS(1)				

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MEMBERS - BIAS NAME(LENGTH)

COMMON BLOCK LENGTH

2145 CASSIM(1)	2147 JAUO (4)
2151 JAUICCH(1)	2156 JTRCE (16)
2172 ITHFG (2)	2178 JACCATX(4)
2182 JACCATY(4)	2190 JPCVCT(1)
2191 IOEX (4)	2196 JPSNLM(1)
2197 CLUTTER(1)	2199 DELVI (1)
2200 DELZI (1)	2202 GRAZANG(1)
2203 IPSYMC(1)	2205 IFFESISY(1)
2206 IROFULE(120)	2357 IFOFIOX(1)
2358 IPOHDE(1)	2359 IFFIOFEN(3)
2390 IPORSC (1)	2392 ITGYN (1)
2393 JROZ (1)	2395 PO (1)
2396 PHIR (1)	2399 PPDAGNM(1)
2399 SF (5)	2405 SIGVAC (1)
2406 XINLSEA(9)	2424 XSN (1)
2425 YAPC (1)	2427 YRDONTO(1)
2428 DCL13 (1)	2430 DCL33 (1)
2431 SNPHIR (1)	2433 CSXLCZI(1)
2434 GMLVOC(21)	2464 KPDSCYC(1)
2465 FPI2 (1)	2487 XFA (21)
2508 YFA (21)	2520 IFAIL (9)
2539 FARGLM(1)	2530 IYKFL(100)
2940 ILIR (1)	2945 YOCYAV(4)
2949 AKFR (1)	2951 COSB (16)
2967 SINR (16)	2999 NOIS (16)
3015 SIGNAL (512)	4070 SIND (512)
4551 ANARR (128)	4711 ACU (1)
4712 SANGERP(1)	4712 KPSVTHP(1)
4715 IVEEN (64)	4811 ALGAKFR(1)
4812 ALGAKSV(1)	4814 IFRAND (1)
4815 AKFV (1)	4817 GAMPAS (1)
4818 REDEF (1)	4820 IDAK (2)
4822 NIUIRL(10)	4849 NIUIRUF(40)
4839 MSPIBUF(40)	4946 MSFIBUF(40)
4986 MACFISP(2)	4992 MUXIBUF(50)
5042 MUXORUF(17)	5315 MUXIBUF(140)
5355 KATOBUF(1024)	7403 NIUEIT (1)
7404 MSPRIY (1)	7407 TACRANG(1)
7408 TACREAR(1)	7410 STRATC (2)
7412 STRSO (2)	
0 HELCIC (5)	41 CWNSTC (14)
55 SONCIC (12)	58 JKRUN (1)
69 JPRINT (1)	71 INQ (1)
72 YOUTR (1)	74 NBSIZ (1)
75 SOT (80)	157 NRCM (1)
168 NRUFFWD(1)	170 ICSEFF(3)
171 IEPCIC (1)	173 IEPC (1)
174 ITGDEY (1)	176 DELVITC(1)
177 RUOYIC (64)	245 ISCALTC(1)
246 ICFIPSY(1)	248 ICYPCS(1)
0 ISMKCNT(1)	2 IREPCNT(1)
3 IAYLCAT(1)	5 ICASCNT(1)
6 IMACCNT(1)	8 ICPCNT(1)
9 ICUCCNT(1)	11 TONTCP (1)

DEFAULT 249

SYMFLG 22

SUBROUTINE CMXCOY

COMMON BLOCK	LENGTH	MEMBERS	PIAS NAME(LENGTH)
TACFLGS	12		12 IPONTER(1) 15 ITORCS(1) 18 ICSRDFG(1) 21 IWETP(1) 0 YRTIME(1) 3 IDAYLNK(1) 6 HRTIME(1) 9 IDSETP(1) 0 HOELIM(1) 0 AMCCNS(16) 0 ERUFONT(1) 3 IPLCCOR(1) 9 HCOO(14) 270 KSLFYST(1) 0 IBFUL1(13) 0 IXFREPR(3)
HORIZN	1		
CONST	16		
COMCMUY	271		
BUFLAG	26		
ERRFLAG	3		

STATISTICS

PROGRAM LENGTH	1718	121
COMMON LENGTH	11308	600
BLANK COMMON	163FEB	7414

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13 IDATUM(1)	14 ISNSETS(1)
16 IPROPCS(1)	17 IEXFENT(1)
19 IHELPUR(1)	20 IENGPDG(1)
1 IHLONTL(1)	2 IMELCOR(1)
4 IPATCOR(1)	5 IPKVERP(1)
7 ICNTOPE(1)	8 NEEPHCOB(1)
10 IOVONS(1)	11 MSKALST(1)
1 FHOZMEN(1)	2 IFRCINT(1)
4 RESTTTP(1)	5 MSIN(4)
13 MMSOCAT(256)	269 KMSG(1)
13 IPFUL2(13)	

[illegible]

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C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPTIME,ATZSNLM,CLUTTER,DELTA,DELTAZ,DELTAZPHIR,
* GRAZANG,PROSYM,ICFAR,IPERSIS,IPROFILE(120),IPROFCD(31),IRDRINX,
* IRDRMCE,IPROSIZE,ICFURN(30),IRDRS,ISEASTE,IIGIN,
* JCOR,NPD,PHI,PCNOISE,PCNGNM,SP(5),SIGMA,SIGMAO,
* XINLSFA(9),YINLSFA(9),XSN,YSN,XCENTR,YCENTR,XDCNTR,YDCNTR,CCL13,CCL23,
* DCL33,SNRPHI,CSPIR,CXLOZI,GMMLMAC(21),RADCPDS(9)
* ,KDDPCYC,TG12,M3(21),YFA(21),YFA(21),ISIZE,IFAIL(9),FAPNGLM
C-----ESM TABLES
COMMON IEMV(100,3),ITRKEFL(100),IL13,INTVESM(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON//IOCTAVE(4),AKFR,AUMRIN,COSS(16),SIN(16),SIG(16),NOIS(16),
X SIGNAL(16,8,4),COSD(16,8,4),SIND(16,8,4),ANAP(16,8),FI(8,4),
X AOU,SANGERR,CVPANCE,KFSUTH,
X IVERN(2,8,4),FLOG(8,4),ALGAKFR,ALGAKFRV,ALGTWC,IFRANC,AKFRV
COMMON//ION,GAMAS,BDEFTP,KVALFIP,IOAW(2)
COMMON/HORIZN/HORLIM
COMMON/CONST/AMCONS(16)
COMMON//NUIBUF(10),MNUCRUF(17),MNUCRUF(40),
* MSPIBUF(40),MSPORUF(17),MSPTRUF(40)
* ,MADDISP(2),IDSPACU(4),MUXIBUF(50),MUXORUF(17)
* ,MUXABUF(256),MUXIBUF(40),MAYORUF(1024),KSORUF(1024)
* ,NIUBIT,MSPBIT,MUXBIT(2)
* ,TACRANG,TACREAR,ITACVAL,STKATO(2),STKSO(2)
COMMON/COMCMUX/FEUFENT,ENDERPQ
COMMON/COMCMUX/IRPOINT,IPLCCCR,RESETR,HSIN(4)
* ,HCOSS(4),MMSGDAT(256),KMMSG
* ,KSLEST
COMMON/BUFLAG/IRFUL(13),IRFUL(13)
COMMON/ERRFLAG/IRSEPR(3)
DATA OLOFT,OLDBIT(1),OLOBIT(2),MUXRT
* / 0 , 0 , 0 , 2540009 /
RT = MUXRT
BIT(1) = MUXBIT(1)
BIT(2) = MUXBIT(2)
C-----
C IF SELF-TEST IS IN PROGRESS
C-----
IF(KSLEST)90,90,60
THEN
DECREMENT SELF-TEST COUNTER
CONTINUE
KSLEST = KSLEST - 1
IF SELF-TEST HAS NOT TIMED OUT
IF(KSLEST)1250,70,1250
THEN
SELF-TEST TIMED OUT, SETUP OUTPUT OF
RT AND BIT STATUS WORDS
CONTINUE
OLOBIT(1)=0
OLOBIT(2)=0
MUXIBUF(1)=RT,OF,1R
MUXIBUF(2)=BIT(1)
MUXIBUF(3)=BIT(2)
MOUTRUF=3

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115      GO TO 1250
      ELSE
      SELF-TEST NOT TIME CUI
      GO TO 1250
      ENDIF
      ELSE
      CONTINUE PROCESSING
      CONTINUE
      IF BUFFER COUNT ERROR HAS OCCURRED
      IF (ERUFONT) 650, 700, 650
      THEN
      SET BIT 12 OF FIRST BIT STATUS WORD
      CONTINUE
      BIT(1) = OR( 100000, BIT(1) )
      ERUFONT = 0
      ELSE
      LEAVE BIT STATUS WORDC ALONE
      CONTINUE
      ENDIF
      IF HEADER WORD ERROR
      IF (CHORWD) 750, 800, 750
      THEN
      SET BIT 12 IN SECOND BIT STATUS WORD
      CONTINUE
      BIT(2) = OR( 100000, BIT(2) )
      FHDWRD = 0
      ELSE
      LEAVE BIT STATUS WORDC ALONE
      CONTINUE
      ENDIF
      IF VALUE1 = AND( BIT(1), COMPLIC(ORBIT(1)))
      IF VALUE2 = AND( BIT(2), COMPLIC(ORBIT(2)))
      IF POWER OFF/CN TRANSIENT HAS OCCURRED
      IF (VALUE1.AND.200000) 815, 830, 815
      THEN
      SET FLAGS TO PROCESSING HALTED
      CONTINUE
      IPLCCO2=0
      IPRINT=0
      ELSE
      CONTINUE
      ENDIF
      IF BIT STATUS HAS CHANGED
      IF (VALUE1.IVALUE2) 860, 880, 860
      THEN
      PLACE NEW FAULTS INTO OUTPUT BUFFER
      CONTINUE
      NOUTBUF = NOUTBUF + 1
      MUXTRUF(NOUTBUF) = IVALUE1
      NOUTBUF = NOUTBUF + 1
      MUXTRUF(NOUTBUF) = IVALUE2
      GO TO 900
      ELSE
      GO TO 1250
      ENDIF

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CMUX2 101

	C	880	OMIT BIT STATUS WORDS FROM OUTPUT CONTINUE OLOBIT(1) = BIT(1) OLOBIT(2) = BIT(2)	CMUX2 CMUX2 CMUX2 CMUX2
170	C	900	CONTINUE ENDIF	CMUX2 CMUX2
	C		-----	CMUX2 CMUX2
	C		SET UP RT STATUS WORD	CMUX2 CMUX2
	C		-----	CMUX2 CMUX2
175	C		IF ANY OF THE MESSAGE ERROR BITS ARE ON IF(BIT(1).AND.7600B)880,1000,980	CMUX2 CMUX2
	C		THEN	CMUX2 CMUX2
	C		SET BIT 10 OF RT STATUS WORD	CMUX2 CMUX2
180	C	980	CONTINUE RT = OR(20009, RT)	CMUX2 CMUX2
	C		ELSE	CMUX2 CMUX2
	C		LEAVE RT STATUS WORD ALONE	CMUX2 CMUX2
	C		CONTINUE	CMUX2 CMUX2
185	C	1000	ENDIF	CMUX2 CMUX2
	C		IF ANY OF THE *BIT* TEMP-HIGH BITS ARE ON IF(BIT(2).AND.160000B)1080,1100,1080	CMUX2 CMUX2
	C		THEN	CMUX2 CMUX2
	C		SET BIT 6 OF THE RT STATUS WORD	CMUX2 CMUX2
190	C	1080	CONTINUE RT = OR(RT, 100B)	CMUX2 CMUX2
	C		ELSE	CMUX2 CMUX2
	C		LEAVE RT STATUS WORD ALONE	CMUX2 CMUX2
	C		CONTINUE	CMUX2 CMUX2
195	C	1100	ENDIF	CMUX2 CMUX2
	C		IF ANY OF THE OTHER ERROR BITS ARE ON IF(PIT(1).AND.170177B)*(PIT(2).AND.160170B)1190,1200,1180	CMUX2 CMUX2
	C		THEN	CMUX2 CMUX2
	C		SET BIT 0 OF RT STATUS WORD	CMUX2 CMUX2
200	C	1180	CONTINUE RT = OR(RT, 1)	CMUX2 CMUX2
	C		ELSE	CMUX2 CMUX2
	C		LEAVE RT STATUS WORD ALONE	CMUX2 CMUX2
	C		CONTINUE	CMUX2 CMUX2
205	C	1200	ENDIF	CMUX2 CMUX2
	C		IF DATA REQUESTED, PROCESSING STARTED, IPL OCCUPIED AND NOT SELF-TESTING	CMUX2 CMUX2
	C		IF(APPOINT-IPL00CF)1210,1220,1210	CMUX2 CMUX2
	C		THEN	CMUX2 CMUX2
	C		-----	CMUX2 CMUX2
210	C		CONSTRUCT CMUX OUTPUT NORMAL DATA TRANSFER	CMUX2 CMUX2
	C		-----	CMUX2 CMUX2
	C	1210	CONTINUE	CMUX2 CMUX2
	C		CALL CMXDATA	CMUX2 CMUX2
	C		NOUTBUF = 32	CMUX2 CMUX2
215	C		SET WORD COUNT IN RT STATUS RT = OR(RT, 76A)	CMUX2 CMUX2
	C		SET RT DATA AVAILABLE BIT RT = OR(RT, 400B)	CMUX2 CMUX2
	C		GO TO 1222	CMUX2 CMUX2
220	C		ELSE	CMUX2 CMUX2

```

C 1220 OMIT OUTPUT DATA
  CONTINUE
  NOUTBUF = 1
C 1222 CONTINUE
  ENDOF
C 1250 CONTINUE
  ENDOF
C 225 CPBIT = AND( 1, SHIFT( IDAW(1), 60-2))
  PPBIT = AND( 1, SHIFT( IDAW(2), 60-2))
C 230 IF PREVIOUS OUTPUT READ BY PP
  IF(CPBIT-PPBIT)2400,1280,2400
  THEN
C 235 IF ACP HAS TAKEN THE PREVIOUS BUFFER
  CONTINUE
  IF(10FUL(3)+10FUL2(3))2300,1300,2300
  THEN
C 240 IF THERE IS NEW DATA TO BE SENT TO ACP
  CONTINUE
  IF ( RT.EC.OLDPT .AND. NOUTBUF.EC.1 ) GO TO 2000
  THEN
C 245 PUT RT STATUS WORD INTO OUTPUT BUFFER
  OLDRT = NOUTBUF(1) = RT
  PACK OUTPUT BUFFER
C 250 CALL PACKOP( 3, NOUTBUF)
  CONSTRUCT HEADER WORD
  NBYTES = NOUTBUF + NOUTBUF
  NWORDS = ( NBYTES+4 ) / 5
  MUXCRUF(1) = 02( SHIFT(NBYTES,12), NWORDS)
  SAVE CURRENT *BIT* STATUS,
  OLDRT(1)=RT(1)
  OLDRT(2)=RT(2)
  RESET CP DATA AVAILABLE BIT
  IDAW(1) = XCR1 IDAW(1), SHIFT(1,2))
  IF DATA IS BEING TRANSMITTED TO ACP
  IF(RT.AND.768)1600,1600,1600
  THEN
C 255 SET DATA SENT STATUS FLAG
  10FUL2(3)=1
  ELSE
C 260 FLAG NOT SET
  CONTINUE
  ENDOF
C 270 SET FLAG THAT THIS DATA HAS NOT BEEN
  ACKNOWLEDGED / REQUESTED YET
  10FUL(3) = 1
  GO TO 2400
  ELSE
C 275 LEAVE OUTPUT BUFFER EMPTY
  CONTINUE

```

```
280      C      ENDIF
      C      ELSE
      C      AOP HAS NOT TAKEN LAST BUFFER
      C      SET ERROR WORDS 2 AND 3
      C      CONTINUE
      C      IXPERR(2)=IXPERR(2).OR.SHIFT(1BFUL(3),2)
      C      IXPERR(3)=IXPERR(3).OR.SHIFT(1BFUL(3),2)
      C      GO TO 2400
      C      CONTINUE
      C      2310      CONTINUE
      C      2311      ENDIF
      C      ELSE
      C      PP DID NOT TAKE BUFFER, SET ERROR WORD 1
      C      IXPERR(1) = IXPERR(1) .AND. 48
      C      2400 CONTINUE
      C      2401      ENDIF
      C      2402      CONTINUE
      C      2403      END OF MODULE
      C      2404      RETURN
      C      2405      END
      C      2406      CONTINUE
      C      2407      CONTINUE
      C      2408      CONTINUE
      C      2409      CONTINUE
      C      2410      CONTINUE
      C      2411      CONTINUE
      C      2412      CONTINUE
      C      2413      CONTINUE
      C      2414      CONTINUE
      C      2415      CONTINUE
      C      2416      CONTINUE
      C      2417      CONTINUE
      C      2418      CONTINUE
      C      2419      CONTINUE
      C      2420      CONTINUE
      C      2421      CONTINUE
      C      2422      CONTINUE
      C      2423      CONTINUE
      C      2424      CONTINUE
      C      2425      CONTINUE
      C      2426      CONTINUE
      C      2427      CONTINUE
      C      2428      CONTINUE
      C      2429      CONTINUE
      C      2430      CONTINUE
      C      2431      CONTINUE
```


SYMBOLS	SN	TYPE	RELOCATION	REFS
1000	1	INTEGER	ARRAY	REFS
1001	2	INTEGER	SYMBOLS	REFS
1002	3	INTEGER	SYMBOLS	REFS
1003	4	INTEGER	SYMBOLS	REFS
1004	5	INTEGER	SYMBOLS	REFS
1005	6	INTEGER	SYMBOLS	REFS
1006	7	INTEGER	SYMBOLS	REFS
1007	8	INTEGER	SYMBOLS	REFS
1008	9	INTEGER	SYMBOLS	REFS
1009	10	INTEGER	SYMBOLS	REFS
1010	11	INTEGER	SYMBOLS	REFS
1011	12	INTEGER	SYMBOLS	REFS
1012	13	INTEGER	SYMBOLS	REFS
1013	14	INTEGER	SYMBOLS	REFS
1014	15	INTEGER	SYMBOLS	REFS
1015	16	INTEGER	SYMBOLS	REFS
1016	17	INTEGER	SYMBOLS	REFS
1017	18	INTEGER	SYMBOLS	REFS
1018	19	INTEGER	SYMBOLS	REFS
1019	20	INTEGER	SYMBOLS	REFS
1020	21	INTEGER	SYMBOLS	REFS
1021	22	INTEGER	SYMBOLS	REFS
1022	23	INTEGER	SYMBOLS	REFS
1023	24	INTEGER	SYMBOLS	REFS
1024	25	INTEGER	SYMBOLS	REFS
1025	26	INTEGER	SYMBOLS	REFS
1026	27	INTEGER	SYMBOLS	REFS
1027	28	INTEGER	SYMBOLS	REFS
1028	29	INTEGER	SYMBOLS	REFS
1029	30	INTEGER	SYMBOLS	REFS
1030	31	INTEGER	SYMBOLS	REFS
1031	32	INTEGER	SYMBOLS	REFS
1032	33	INTEGER	SYMBOLS	REFS
1033	34	INTEGER	SYMBOLS	REFS
1034	35	INTEGER	SYMBOLS	REFS
1035	36	INTEGER	SYMBOLS	REFS
1036	37	INTEGER	SYMBOLS	REFS
1037	38	INTEGER	SYMBOLS	REFS
1038	39	INTEGER	SYMBOLS	REFS
1039	40	INTEGER	SYMBOLS	REFS
1040	41	INTEGER	SYMBOLS	REFS
1041	42	INTEGER	SYMBOLS	REFS
1042	43	INTEGER	SYMBOLS	REFS
1043	44	INTEGER	SYMBOLS	REFS
1044	45	INTEGER	SYMBOLS	REFS
1045	46	INTEGER	SYMBOLS	REFS
1046	47	INTEGER	SYMBOLS	REFS
1047	48	INTEGER	SYMBOLS	REFS
1048	49	INTEGER	SYMBOLS	REFS
1049	50	INTEGER	SYMBOLS	REFS
1050	51	INTEGER	SYMBOLS	REFS
1051	52	INTEGER	SYMBOLS	REFS
1052	53	INTEGER	SYMBOLS	REFS
1053	54	INTEGER	SYMBOLS	REFS
1054	55	INTEGER	SYMBOLS	REFS
1055	56	INTEGER	SYMBOLS	REFS
1056	57	INTEGER	SYMBOLS	REFS
1057	58	INTEGER	SYMBOLS	REFS
1058	59	INTEGER	SYMBOLS	REFS
1059	60	INTEGER	SYMBOLS	REFS
1060	61	INTEGER	SYMBOLS	REFS
1061	62	INTEGER	SYMBOLS	REFS
1062	63	INTEGER	SYMBOLS	REFS
1063	64	INTEGER	SYMBOLS	REFS
1064	65	INTEGER	SYMBOLS	REFS
1065	66	INTEGER	SYMBOLS	REFS
1066	67	INTEGER	SYMBOLS	REFS
1067	68	INTEGER	SYMBOLS	REFS
1068	69	INTEGER	SYMBOLS	REFS
1069	70	INTEGER	SYMBOLS	REFS
1070	71	INTEGER	SYMBOLS	REFS
1071	72	INTEGER	SYMBOLS	REFS
1072	73	INTEGER	SYMBOLS	REFS
1073	74	INTEGER	SYMBOLS	REFS
1074	75	INTEGER	SYMBOLS	REFS
1075	76	INTEGER	SYMBOLS	REFS
1076	77	INTEGER	SYMBOLS	REFS
1077	78	INTEGER	SYMBOLS	REFS
1078	79	INTEGER	SYMBOLS	REFS
1079	80	INTEGER	SYMBOLS	REFS
1080	81	INTEGER	SYMBOLS	REFS
1081	82	INTEGER	SYMBOLS	REFS
1082	83	INTEGER	SYMBOLS	REFS
1083	84	INTEGER	SYMBOLS	REFS
1084	85	INTEGER	SYMBOLS	REFS
1085	86	INTEGER	SYMBOLS	REFS
1086	87	INTEGER	SYMBOLS	REFS
1087	88	INTEGER	SYMBOLS	REFS
1088	89	INTEGER	SYMBOLS	REFS
1089	90	INTEGER	SYMBOLS	REFS
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1093	94	INTEGER	SYMBOLS	REFS
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1095	96	INTEGER	SYMBOLS	REFS
1096	97	INTEGER	SYMBOLS	REFS
1097	98	INTEGER	SYMBOLS	REFS
1098	99	INTEGER	SYMBOLS	REFS
1099	100	INTEGER	SYMBOLS	REFS

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207 DEFINED 149

SUBROUTINE CMUX2

CDC 6600 FPN V3.0-P180 CRT=1 78/06/12. 15.4F.44.

PAGE

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VARIABLES	SN	TYPE	PELOCATION	REFS	156	161	141	142	281	282	288	DEFINED	281	282
256	ITGDET	INTEGER	DEFAULT	REFS	31									
4530	ITGIN	INTEGER	/ /	REFS	57									
4011	ITHR	INTEGER	/ /	REFS	49									
17	ITODOS	INTEGER	SYNFLAG	REFS	42									
5430	ITRKFIL	INTEGER	/ /	REFS	65									
370	ITUNE	INTEGER	/ /	REFS	20									
171	IVALUE1	INTEGER	/ /	REFS	144									
172	IVALUE2	INTEGER	/ /	REFS	156									
11153	IVERN	INTEGER	/ /	REFS	67									
25	IMFTP	INTEGER	SYNFLAG	REFS	42									
0	IXPREPR	INTEGER	ERRFLAG	REFS	85									
371	JABUFF	INTEGER	/ /	REFS	20									
104	JKRUN	INTEGER	DEFAULT	REFS	31									
1572	JOWN	INTEGER	/ /	REFS	20									
1500	JPILCT	INTEGER	/ /	REFS	20									
105	JPRINT	INTEGER	DEFAULT	REFS	31									
4531	JROR	INTEGER	/ /	REFS	57									
1501	JRESET	INTEGER	/ /	REFS	20									
1573	JSUB	INTEGER	/ /	REFS	20									
4154	JTCE	INTEGER	/ /	REFS	49									
12353	KATOBUF	INTEGER	/ /	REFS	74									
415	KMSG	INTEGER	COMMON	REFS	81									
11152	KPSVTHR	INTEGER	/ /	REFS	67									
4640	KPRCYC	INTEGER	/ /	REFS	57									
416	KSLFTST	INTEGER	COMMON	REFS	31									
14353	KSOBUF	INTEGER	/ /	REFS	74									
11323	KVALFTP	INTEGER	/ /	REFS	71									
4076	LL	INTEGER	/ /	REFS	49									
1574	MADAUTO	INTEGER	/ /	REFS	20									
11572	MADDISP	INTEGER	/ /	REFS	74									
4026	MASTRF	INTEGER	/ /	REFS	49									
4133	MAXBUOY	INTEGER	/ /	REFS	49									
366	MINUTES	INTEGER	/ /	REFS	20									
1713	MISSION	INTEGER	/ /	REFS	20									
15	MSGDAY	INTEGER	COMMON	REFS	81									
167	MODESIM	INTEGER	DEFAULT	REFS	31									
13	MSKALPT	INTEGER	TACFLGS	REFS	45									
16354	MSPBIT	INTEGER	/ /	REFS	74									
11431	MSPBUF	INTEGER	/ /	REFS	74									
11501	MSPBOUF	INTEGER	/ /	REFS	74									
11522	MSPBOUF	INTEGER	/ /	REFS	74									
11703	MUXABUF	INTEGER	/ /	REFS	74									
16355	MUXBIT	INTEGER	/ /	REFS	74									
11500	MUXIBUF	INTEGER	/ /	REFS	74									
11562	MUXOBUF	INTEGER	/ /	REFS	74									
162	MUXRT	INTEGER	/ /	REFS	89									
12303	MUXTBUF	INTEGER	/ /	REFS	74									
4642	M3	INTEGER	/ /	REFS	57									
314	NAV	REAL	/ /	REFS	20									
111	NBC	INTEGER	DEFAULT	REFS	31									
233	NBCA	INTEGER	DEFAULT	REFS	31									
247	NBCM	INTEGER	DEFAULT	REFS	31									
156				REFS	144									
161				REFS	156									
141				REFS	67									
142				REFS	42									
281				REFS	85									
282				REFS	20									
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282				REFS	49									
288				REFS	74</									

VARIABLES

SN

TYPE

RELOCATION

7707	SIND	REAL	ARRAY	67	REFS
4577	SNHPY	REAL	ARRAY	57	REFS
67	SONCIC	REAL	ARRAY	31	REFS
16362	STKATO	REAL	ARRAY	74	REFS
16364	STKSO	REAL	ARRAY	74	REFS
16360	TACBSAP	REAL	ARRAY	74	REFS
16357	TACRANG	REAL	ARRAY	74	REFS
5	TARGIC	REAL	ARRAY	31	REFS
30	TARGNAV	REAL	ARRAY	20	REFS
354	TIME	REAL	ARRAY	20	REFS
1707	YIMTICK	REAL	ARRAY	20	REFS
2266	TORPED	REAL	ARRAY	38	REFS
2311	TRACKS	REAL	ARRAY	38	REFS
2405	TRCKSHIP	REAL	ARRAY	78	REFS
C	TRKTIME	REAL	ARRAY	46	REFS
4641	TR12	REAL	ARRAY	57	REFS
2377	WEAFIP	REAL	ARRAY	38	REFS
251	WHEN	REAL	ARRAY	31	REFS
361	WIND	REAL	ARRAY	20	REFS
3637	XBUOYDR	REAL	ARRAY	49	REFS
4667	XFA	REAL	ARRAY	57	REFS
4546	XINLSEA	REAL	ARRAY	57	REFS
2063	XMADONT	REAL	ARRAY	38	REFS
2306	XCONTOP	REAL	ARRAY	38	REFS
4572	XROCNTR	REAL	ARRAY	57	REFS
4570	XSN	REAL	ARRAY	57	REFS
4571	YBPD	REAL	ARRAY	57	REFS
3640	YBUOYDR	REAL	ARRAY	49	REFS
4714	YFA	REAL	ARRAY	57	REFS
4557	YINLSEA	REAL	ARRAY	57	REFS
4573	YPOCNTR	REAL	ARRAY	57	REFS

EXTERNALS

TYPE

ARGS

REFERENCES

CMXDATA	0	213
PACKPP	2	250
XOR	2	17

INLINE FUNCTIONS

TYPE

ARGS

DEF LINE

REFERENCES

AND	NO TYPE	2	INTOIN	142
COMPL	NO TYPE	1	INTRIN	142
OR	NO TYPE	2	INTOIN	135
SHIFT	NO TYPE	2	INTRIN	229

STATEMENT LABELS

DEF LINE

REFERENCES

0 60	INACTIVE	97	94
0 70	INACTIVE	104	103
21 90	INACTIVE	118	2*94
0 650	INACTIVE	123	2*120
25 700	INACTIVE	128	129
0 750	INACTIVE	134	2*111
31 800	INACTIVE	139	131
0 815	INACTIVE	147	2*144
40 830	INACTIVE	151	142
0 860	INACTIVE	159	2*156

COMMON BLOCKS LENGTH MEMBERS - PIAS NAME(LENGTH)

CDC 6600 V7.3-P390 OPT=1

78/06/12 15.45.44.

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2200 DELZI (1)	2201 DUTPHIP(1)	2202 CBAZANG(1)
2203 IROSWAP(1)	2204 ICEAR (1)	2205 IFRSTIS(1)
2206 IROFILE(120)	2326 IROJDO(71)	2327 IROICX(1)
2358 IROSWCE(1)	2359 IROSI2(1)	2360 IROTURN(20)
2390 IAPSC (1)	2391 ISFASIE(1)	2392 IIGTN (1)
2393 JDOE (1)	2394 NP (1)	2395 PD (1)
2396 PHIR (1)	2397 PCNOISE(1)	2398 CORAGNY(1)
2399 SF (5)	2404 SYGMA (1)	2405 SIGMAO (1)
2406 XINLSEA(9)	2415 YINLSEA(9)	2424 XSN (1)
2425 YBPC (1)	2426 XFOCNT(1)	2427 XDCNIP(1)
2428 DCL13 (1)	2429 XCL27 (1)	2430 CCL37 (1)
2431 SNPHIP (1)	2432 CSPHIP (1)	2433 CSXLDZI(1)
2434 GMLXDAC(21)	2455 PADCRS(9)	2464 XODPCYC(1)
2465 TR12 (1)	2466 M3 (21)	2467 XEA (21)
2508 YFA (21)	2529 ISIZE (1)	2530 IFATL (9)
2539 FARAGLM(1)	2540 IEMTY (300)	2540 ITRKFL(100)
2940 ILID (1)	2941 INVERNY(4)	2945 TCOITAVE(4)
2949 AKFR (1)	2950 NUMBIN (1)	2951 COSR (16)
2957 SIN3 (16)	2953 SIG (14)	2955 NOIS (16)
3015 SIGNAL (512)	3527 COSO (512)	4039 SYNC (512)
4551 ANARR (128)	4679 FI (32)	4711 ACU (1)
4712 SANGERR(1)	4713 CVRANGE(1)	4714 KSVTPRP(1)
4715 IVSPN (64)	4779 FPLG (32)	4811 ALGAKFP(1)
4812 ALGAKEV(1)	4813 ALGTWO (1)	4814 IFRANG (1)
4815 AKFRV (1)	4816 ION (1)	4817 GAMMAS (1)
4818 DERTP (1)	4819 KVALFTP(1)	4820 IDAK (2)
4822 NIUTBUE(10)	4832 NIUTBUE(17)	4849 NIUTBUE(40)
4849 MSPBUE(40)	4929 MSPBUE(17)	4946 MSPBUE(40)
4986 MADDISP(2)	4988 ICSPACU(4)	4992 MUXIBUE(50)
5042 MUXBUE(17)	5059 MUXBUE(256)	5315 MUXIBUE(40)
5355 KATCPLF(1024)	6379 KSOBUE(1024)	7403 NIUBIT (1)
7404 MSPIT (1)	7405 MUXIY (2)	7407 TACFRANG(1)
7408 TACREAP(1)	7409 IYACVAL(1)	7410 SYKATC (2)
7412 SYKSC (2)	5 YARGIC (76)	41 OMNSIC (14)
0 HELCIC (5)	67 IPECFL(1)	58 JKSLN (1)
55 SONCIC (12)	70 NBI (1)	71 TAB (1)
69 JPOINT (1)	73 NRC (1)	74 NBSIZ (1)
72 IQUR (1)	155 NACA (12)	157 NEOM (1)
75 SCT (80)	169 WHEN (1)	170 ICECEP(1)
158 NGUFEWO(1)	172 IDC2E9(1)	173 IERPC (1)
171 IERIC (1)	175 OFLYTIC(1)	176 DELVTIC(1)
174 IYCOY (1)	241 DATUMIC(4)	245 ISCALIC(1)
177 RUOVIC (64)	247 MODESIM(1)	248 ICEIMOS(1)
246 ICIFEST(1)	1 IFTPCNT(1)	2 IREFCNT(1)
0 ISMKCNT(1)	4 IOPCNT(1)	5 ICASONT(1)
3 IATLCNT(1)	7 ICONCNT(1)	8 IREFCNT(1)
6 INADCNT(1)	10 YFIXCNT(1)	11 IONTOP (1)
9 ICUSCNT(1)	13 IDATUM (1)	14 ISNSFCS(1)
12 IPONTEP(1)	16 IPORPCS(1)	17 IEXPCNT(1)
15 IYOSOS (1)	19 IHELCOUP(1)	20 IANGFOD(1)
18 ICSDREF(1)	1 IHLNCTL(1)	2 IHELCCR(1)
21 IWFTP (1)	4 IPATCOP(1)	5 IHKVEPF(1)
0 IPKTIME(1)		
3 IDATLNC(1)		

DEFAULT 249

SYMFLG 22

TACFLGS 12

SUBROUTINE CMUX2

COMMON BLOCK	LENGTH	MEMBERS - BIAS NAME(LENGTH)
HORIZN	1	6 HXTIME (1)
CONST	16	9 IJSEIP (1)
COMCMUX	271	0 HOPLIN (1)
		0 ANCONS (16)
		0 EMUFONT (1)
		3 IPLCCCP (1)
		9 HOOS (4)
		270 KSLFTST (1)
PUFFLAG	26	0 IBFUL1 (13)
ERRFLAG	3	0 IXFFER (3)

STATISTICS

PROGRAM LENGTH	2018	129
COMMON LENGTH	11308	600
BLANK COMMON	163668	7414

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7 IONTOPE (1)	8 NRFPCCS (1)
10 ICYCCS (1)	11 MSKALGT (1)
1 FHOWARD (1)	2 IPRCNT (1)
4 RESSTID (1)	5 MSIN (4)
13 MMSGCAT (256)	269 KMMSG (1)
13 IBFUL2 (13)	


```
170      ITEM = K2SCOMP( MUXPACK( HELC(15), 13, 0.5))
          STORE INTO CMUX TEMPORARY BUFFER
          MUXBUF(12) = SHIFT( AND(ITEM, 377770), 2)
          -----
          C WORD 12-27 - HEADING 4 SAMPLES, 2 SOURCES, SINE, COSINE
          C-----
          KTRUF = 13
          DO UNTIL 4 SAMPLES GENERATED
          DO 103 I=1,4
          C      CONVERT SINE TO 2'S COMPLEMENT BINARY
          C      ITEM = K2SCOMP( MUXPACK(HSIN(I), 13, 0.5))
          C      STORE AS BOTH HEADING SINES
          C      MUXBUF(KTRUF) = SHIFT( AND(ITEM, 377770), 2)
          C      MUXTRUF(KTRUF) = MUXTRUF(KTRUF)
          C      CONVERT COSINE TO 2'S COMPLEMENT BINARY
          C      ITEM = K2SCOMP( MUXPACK(HCOS(I), 13, 0.5))
          C      STORE AS BOTH HEADING COSINES
          C      MUXTRUF(KTRUF+1) = SHIFT( AND(ITEM, 377770), 2)
          C      MUXTRUF(KTRUF+3) = MUXTRUF(KTRUF+1)
          C      KTRUF = KTRUF + 4
          C      100 CONTINUE
          C      ENDDO
          C-----
          C WORD 28 - INDICATED AIRSPEED
          C-----
          C PACK HELC(21) CONVERTED TO KNOTS
          C      ITEM = MUXPACK( HELC(21)*(3600.0/6030.0), 9, 150.0)
          C      MUXBUF(29) = SHIFT( ITEM, 6)
          C-----
          C WORD 29 - BAROMETRIC ALTITUDE
          C-----
          C PACK HELC(15)
          C      ITEM = MUXPACK( ABS(HELC(15)), 9, 10000.0)
          C      MUXTRUF(30) = SHIFT(ITEM, 6)
          C-----
          C WORD 30 - OUTSIDE AIR TEMPERATURE
          C-----
          C IT'S ALWAYS 25 DEGREES CENTIGRADE
          C      ITEM = 25 + 90
          C      MUXTRUF(31) = SHIFT( ITEM, 6)
          C-----
          C WORD 31 - LATEST WAD CONVERSION
          C-----
          C PACK GAMMAS
          C      IVALUE = MUXPACK( GAMMAS, 9, -1.0)
          C      MUXTRUF(32) = OR( 1, SHIFT(IVALUE, 6))
          C      RETURN
          C      END
```


SUBROUTINE CMXDATA

CDC 6600 FTR V3.0-P390 CPT=1 7/8/56/12. 15.45.44.

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VARIABLES SN TYPE RELOCATION

VARIABLES	SN	TYPE	RELOCATION
4753 FARNGLM	REAL	REAL	REFS
11107 FI	REAL	REAL	REFS
2244 FIXDFS	REAL	REAL	REFS
11253 FRLOS	REAL	REAL	REFS
355 FTPE	REAL	REAL	REFS
340 FIPNAV	REAL	REAL	REFS
11321 GAMMAS	REAL	REAL	REFS
4602 GMLHOC	REAL	REAL	REFS
4232 GRAZANG	REAL	REAL	REFS
11 HCOOS	REAL	REAL	REFS
0 HELO	REAL	REAL	REFS
0 HELOIC	REAL	REAL	REFS
256 HELOST	REAL	REAL	REFS
6 HKTIME	REAL	REAL	REFS
0 HOPLIM	REAL	REAL	REFS
5 HSN	REAL	REAL	REFS
271 I	INTEGER	INTEGER	REFS
4126 IAAGPMC	INTEGER	INTEGER	REFS
4202 IACDAX	INTEGER	INTEGER	REFS
4206 IACDAX	INTEGER	INTEGER	REFS
4140 IACSTS	INTEGER	INTEGER	REFS
3 IATLCNT	INTEGER	INTEGER	REFS
363 IAUTHAD	INTEGER	INTEGER	REFS
4143 IAUIC	INTEGER	INTEGER	REFS
4147 IAUICCH	INTEGER	INTEGER	REFS
0 IBAFUL1	INTEGER	INTEGER	REFS
15 IBAFUL2	INTEGER	INTEGER	REFS
4216 IBOYCNT	INTEGER	INTEGER	REFS
5 ICASCNT	INTEGER	INTEGER	REFS
370 ICOTMDS	INTEGER	INTEGER	REFS
4234 ICFAR	INTEGER	INTEGER	REFS
366 ICFIRST	INTEGER	INTEGER	REFS
3627 ICH	INTEGER	INTEGER	REFS
4176 ICHNDAT	INTEGER	INTEGER	REFS
7 ICONCNT	INTEGER	INTEGER	REFS
22 ICSROFG	INTEGER	INTEGER	REFS
11 ICURCNT	INTEGER	INTEGER	REFS
12 ICYCNS	INTEGER	INTEGER	REFS
3 IDAILNK	INTEGER	INTEGER	REFS
15 IDATUM	INTEGER	INTEGER	REFS
11324 IDAM	INTEGER	INTEGER	REFS
254 IDC2ERR	INTEGER	INTEGER	REFS
252 IDCERR	INTEGER	INTEGER	REFS
4 IDFCNT	INTEGER	INTEGER	REFS
4217 IDFX	INTEGER	INTEGER	REFS
11 IOSFTP	INTEGER	INTEGER	REFS
11574 IDSPACU	INTEGER	INTEGER	REFS
4754 IEMIT	INTEGER	INTEGER	REFS
253 IER1C	INTEGER	INTEGER	REFS
255 IEP2C	INTEGER	INTEGER	REFS
21 IEXPCNT	INTEGER	INTEGER	REFS
4742 IFAIL	INTEGER	INTEGER	REFS

VARIABLES	SN	TYPE	RELOCATION	REFS	101	157	164	168	178	183	188	193
12 IFIXCNT	12	INTEGER	SYMFGL	41								
11316 IFRAND	66	INTEGER	//	66								
1 IFTPCNT	41	INTEGER	SYMFGL	41								
2 IMELCOR	43	INTEGER	YACFLGS	43								
23 IMELCUR	41	INTEGER	SYMFGL	41								
4174 IMFPG	48	INTEGER	ARRAY	48								
5 IMKVSOP	43	INTEGER	YACFLGS	43								
1 IHLGNTL	45	INTEGER	YACFLGS	45								
5574 ILI9	64	INTEGER	//	64								
6 IMADGNT	41	INTEGER	SYMFGL	41								
117 INB	30	INTEGER	DEFAULT	30								
4021 INTGTM	42	INTEGER	ARRAY	42								
5575 INTYSM	64	INTEGER	ARRAY	64								
5611 IOCTAVE	66	INTEGER	ARRAY	66								
11320 ION	70	INTEGER	//	70								
13 IONTOP	41	INTEGER	SYMFGL	41								
7 IONTOPF	45	INTEGER	YACFLGS	45								
110 IOU19	30	INTEGER	DEFAULT	30								
4150 IPASCUT	49	INTEGER	ARRAY	49								
4 IPATCOR	45	INTEGER	YACFLGS	45								
1602 IPCDEC	19	INTEGER	ARRAY	19								
4235 IPEPIS	55	INTEGER	//	55								
3 IPLORCR	80	INTEGER	COMCMUX	80								
14 IPONTER	41	INTEGER	SYMFGL	41								
20 IPDPOS	51	INTEGER	SYMFGL	51								
2 IPPOINT	80	INTEGER	COMCMUX	80								
4212 IPSVOLR	48	INTEGER	ARRAY	48								
1577 IPTCOR	19	INTEGER	//	19								
10 IRCRONT	41	INTEGER	SYMFGL	41								
4236 IRDFILE	56	INTEGER	ARRAY	56								
4426 IPORDEC	56	INTEGER	ARRAY	56								
4465 IRDPTMX	56	INTEGER	//	56								
4466 IRORWCE	56	INTEGER	//	56								
4526 IRORSC	56	INTEGER	//	56								
4467 IROSIZE	56	INTEGER	//	56								
4233 IROSYMB	56	INTEGER	//	56								
103 IRECFIL	30	INTEGER	DEFAULT	30								
2 IREFCNT	41	INTEGER	SYMFGL	41								
4470 IRETURN	56	INTEGER	ARRAY	56								
4134 IRFCH	48	INTEGER	ARRAY	48								
24 IRNGFRG	41	INTEGER	SYMFGL	41								
1710 IRPTOTR	19	INTEGER	//	19								
3746 IR2	48	INTEGER	//	48								
365 ISCALIC	30	INTEGER	DEFAULT	30								
4527 ISEASTE	56	INTEGER	//	56								
4025 ISELBY	48	INTEGER	//	48								
4741 ISI7E	56	INTEGER	//	56								
0 ISMKONT	41	INTEGER	SYMFGL	41								
14 ISNFCOS	41	INTEGER	SYMFGL	41								
3641 ISONDAT	48	INTEGER	//	48								
4132 ISONCLN	48	INTEGER	//	48								
16361 ITACVAL	73	INTEGER	//	73								
272 ITEM	153	INTEGER	//	153								
	164			164								
	157			157								
	168			168								
	178			178								
	183			183								
	188			188								
	193			193								
	199			199								
	OFF			OFF								

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LAMPS SEAS SIMULATION SOFTWARE SUPPORT. APPENDIX I.(U)
JUN 78

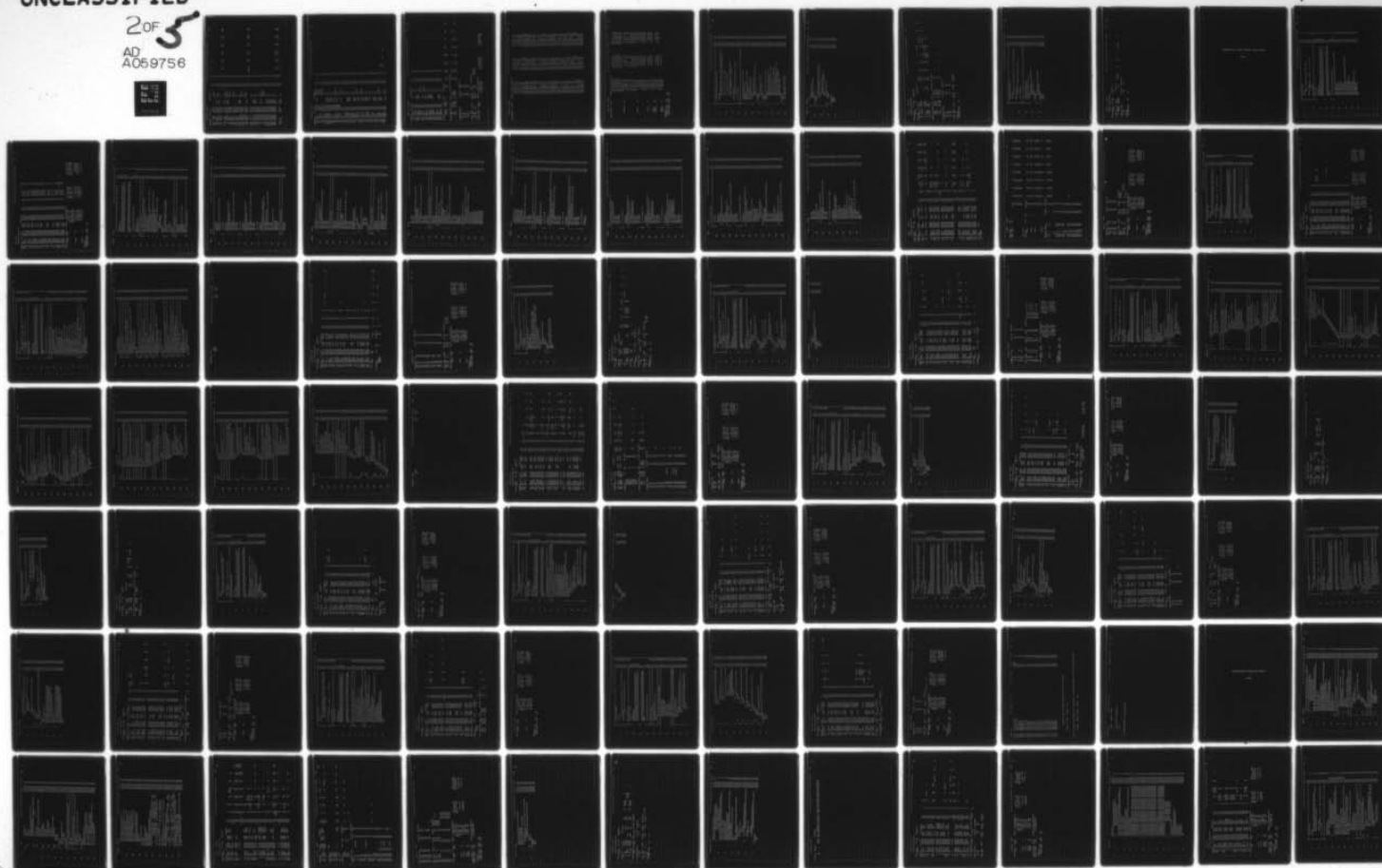
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VARIABLES	SN	TYPE	RELOCATION	191	192	198	204	114	133	144	153	179	184	193	199	205	211	218
1571 ITGNT		INTEGER	/ /	REFS	19													
256 ITGET		INTEGER	DEFAULT	REFS	20													
4530 ITGNT		INTEGER	/ /	REFS	56													
4011 ITHR		INTEGER	/ /	REFS	48													
17 ITORS		INTEGER	SYMFLG	REFS	41													
5430 IIRKFL		INTEGER	/ /	REFS	64													
370 ITUNE		INTEGER	/ /	REFS	19													
267 IVALUE		INTEGER	/ /	REFS	90	96	108	114	133	144							211	
11153 IVERN		INTEGER	/ /	DEFINED	89	95	107	113	131	142							210	
25 IWER		INTEGER	SYMFLG	REFS	66													
0 IXPREFR		INTEGER	ERRFLAG	REFS	41													
371 JABUFF		INTEGER	/ /	REFS	84													
104 JKRUN		INTEGER	DEFAULT	REFS	19													
1572 JOWN		INTEGER	/ /	REFS	30													
1600 JPLOT		INTEGER	/ /	REFS	19													
195 JPRINT		INTEGER	DEFAULT	REFS	19													
4531 JFOR		INTEGER	/ /	REFS	56													
1601 JRESET		INTEGER	/ /	REFS	19													
1573 JSUB		INTEGER	/ /	REFS	19													
4154 JTRCE		INTEGER	/ /	REFS	48													
12353 KATORUF		INTEGER	/ /	REFS	73													
415 KMSG		INTEGER	COMCHUX	REFS	80													
11152 KPSVTHR		INTEGER	/ /	REFS	66													
4640 KRDPCYC		INTEGER	/ /	REFS	56													
416 KSLFTST		INTEGER	COMCHUX	REFS	81													
14353 KSOSUF		INTEGER	/ /	REFS	73													
270 KIBUF		INTEGER	/ /	REFS	132	133	143	144	178	2*179	183						185	
11323 KVALFYP		INTEGER	/ /	2*144	185	DEFINED	127	132	143	172								
4006 LL		INTEGER	/ /	REFS	70													
1574 MADAUTO		INTEGER	/ /	REFS	48													
11572 MADISP		INTEGER	/ /	REFS	19													
4026 MASTFF		INTEGER	/ /	REFS	73													
4133 MAXRUOY		INTEGER	/ /	REFS	48													
366 MINUTES		INTEGER	/ /	REFS	19													
1713 MISSION		INTEGER	/ /	REFS	19													
15 MMSOAT		INTEGER	COMCHUX	REFS	80													
367 MODESTM		INTEGER	DEFAULT	REFS	30													
13 MSKALPT		INTEGER	TACFLGS	REFS	45													
16354 MSPBIT		INTEGER	/ /	REFS	73													
11431 MSPIRUF		INTEGER	/ /	REFS	73													
11501 MSPORUF		INTEGER	/ /	REFS	73													
11522 MSPTRUF		INTEGER	/ /	REFS	73													
11703 MUXABUF		INTEGER	/ /	REFS	73													
16355 MUXBIT		INTEGER	/ /	REFS	73													
11600 MUXIBUF		INTEGER	/ /	REFS	73													
11662 MUXOBUF		INTEGER	/ /	REFS	73													
12303 MUXIBUF		INTEGER	/ /	REFS	73													
4642 M3		INTEGER	/ /	REFS	114	179	184	193	199	205	211							
314 NAV		REAL	/ /	REFS	179	183	184	193	199	205	211							

VARIABLES	SN	TYPE	RELOCATION	REFS
111 NBC	1	INTEGER	DEFAULT	30
233 NBDA	2	INTEGER	DEFAULT	30
247 NRCM	3	INTEGER	DEFAULT	30
112 NBSIZ	4	INTEGER	DEFAULT	30
250 NBUFFWD	5	INTEGER	DEFAULT	30
106 NR1	6	INTEGER	DEFAULT	30
365 NHOURS	7	INTEGER	DEFAULT	19
16353 NIUBIT	8	INTEGER	DEFAULT	73
11326 NIUBUF	9	INTEGER	DEFAULT	73
11340 NIUBUF	10	INTEGER	DEFAULT	73
11361 NIUBUF	11	INTEGER	DEFAULT	73
5667 NOIS	12	INTEGER	DEFAULT	65
4015 NOTCH	13	INTEGER	DEFAULT	48
4532 NPD	14	INTEGER	DEFAULT	56
3633 NPNG	15	INTEGER	DEFAULT	48
10 NRHCR	16	INTEGER	TACFLCS	45
3702 NRNOCNT	17	INTEGER	DEFAULT	48
367 NSECS	18	INTEGER	DEFAULT	19
5636 NUMBIN	19	INTEGER	DEFAULT	65
51 OUNSGIC	20	REAL	DEFAULT	30
4533 PD	21	REAL	DEFAULT	56
4534 PHIR	22	REAL	DEFAULT	56
1711 PLOIXZR	23	REAL	DEFAULT	19
1712 PLOIYZR	24	REAL	DEFAULT	19
2277 POINTFR	25	REAL	DEFAULT	37
2274 PREOPOS	26	REAL	DEFAULT	37
4627 RADCRCS	27	REAL	DEFAULT	56
4535 RCNOISE	28	REAL	DEFAULT	56
4536 RDRNGNM	29	REAL	DEFAULT	56
1714 REFMLL	30	REAL	DEFAULT	37
253 REPTP	31	REAL	DEFAULT	19
4 RESETTR	32	REAL	COMMON	19
2173 RNCGR	33	REAL	DEFAULT	37
3746 R1	34	REAL	DEFAULT	37
11150 SANGERR	35	REAL	DEFAULT	48
113 SCT	36	REAL	DEFAULT	65
2243 SENSHP	37	REAL	DEFAULT	30
4537 SF	38	REAL	DEFAULT	37
232 SHIPCOM	39	REAL	DEFAULT	56
174 SHIPNAV	40	REAL	DEFAULT	19
2404 SHPTKU	41	REAL	DEFAULT	37
5647 SIG	42	REAL	DEFAULT	66
4544 SIGMA	43	REAL	DEFAULT	66
4545 SIGMAO	44	REAL	DEFAULT	56
5707 SIGNAL	45	REAL	DEFAULT	56
5627 SINB	46	REAL	DEFAULT	66
7707 SIND	47	REAL	DEFAULT	66
4577 SNPHIR	48	REAL	DEFAULT	56
57 SONOIC	49	REAL	DEFAULT	30
16362 STKATO	50	REAL	DEFAULT	73
16364 STKSO	51	REAL	DEFAULT	73
16360 TACBEAR	52	REAL	DEFAULT	73
16357 TAC3ANG	53	REAL	DEFAULT	73
5 TARGIC	54	REAL	DEFAULT	30

131
142
104
95
107
113

VARIABLES SN TYPE RELOCATION

30	TARGNAV	REAL	19
354	TIME	REAL	19
1707	TIMEICK	REAL	19
2266	TORPED	REAL	37
2311	TRACKS	REAL	37
2435	TRCKSHR	REAL	37
0	TRKTIME	REAL	45
4641	TR12	REAL	56
2377	WEAFTP	REAL	37
251	WHEN	REAL	30
361	WIND	REAL	19
3637	XBUOYDR	REAL	48
4667	XFA	REAL	56
4546	XINLSEA	REAL	56
2063	XMAGMT	REAL	37
2306	XONTOP	REAL	37
4572	XROCNTP	REAL	56
4570	XSN	REAL	56
4571	YBPD	REAL	56
3640	YBUOYDR	REAL	48
4714	YFA	REAL	56
4557	YINLSEA	REAL	56
4573	YROCNTN	REAL	56

EXTERNALS TYPE ARGS REFERENCES

K2SCOMP	INTEGER	1	155	166	176	181
MUXPACK	INTEGER	3	95	131	142	151
			176	198	210	162

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES

ABS	REAL	1	INTPIN	89	198
AND	NO TYPE	2	INTRIN	90	153
OR	NO TYPE	2	INTRIN	114	211
SHIFT	NO TYPE	2	INTRIN	108	114
				178	183

STATEMENT LABELS

	DEF LINE	REFERENCES
22 10	110	104
31 20	115	109
32 30	116	101
33 40	122	117
0 50	134	123
0 60	145	140
0 100	186	174

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
35	50	* I	129 134	118	EXT REFS
47	60	* I	140 145	118	EXT REFS
112	100	* I	174 186	278	EXT REFS

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

/	7414	0 HELC (24)	24 TARGNAV(68)	112 CONNAV (12)
		124 SHIPNAV(30)	154 SHIPCOM(19)	163 CONVCY (18)
		171 REFTP (3)	174 HELOST (30)	204 NAV (120)

SUBROUTINE CMXDATA

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MEMBERS - BIAS NAME(LENGTH)

COMMON BLOCKS LENGTH

224 FTRNAV (12)
 241 WIND (2)
 246 MINUTES (1)
 249 JARUFF (540)
 891 JSUR (1)
 996 JPTLCT (1)
 965 CX (1)
 968 IPTOTR (1)
 971 MISSION (1)
 1016 DATUM (5)
 1075 XNACONT (12)
 1163 CUPSCR (24)
 1206 TORREC (6)
 1217 EXPCIR (5)
 1279 WEAFIR (5)
 1303 BUOYEM (320)
 1947 NPMG (4)
 1953 ISONDAT (32)
 1990 P1 (32)
 2055 ANS (1)
 2061 NOTCH (4)
 2070 MASTRF (64)
 2139 MAXBUOY (1)
 2145 CASSTIM (1)
 2151 IAUICCH (1)
 2172 IRFFG (2)
 2182 IACDATY (4)
 2191 IDFX (4)
 2197 CLUTFR (1)
 2200 DELZI (1)
 2203 IROSYMB (1)
 2206 IPOFILE (120)
 2358 IROGMCF (1)
 2390 IORSC (1)
 2392 JFOR (1)
 2396 PHIP (1)
 2399 SF (5)
 2406 XINLSEA (9)
 2425 YBPD (1)
 2428 DCL13 (1)
 2431 SNPHIR (1)
 2434 GMLPQAC (21)
 2465 TR12 (1)
 2508 YFA (21)
 2539 FARNGLM (1)
 2940 ILIB (1)
 2949 AKFR (1)
 2967 SING (16)
 3015 SIGNAL (512)
 4551 ANARPD (128)
 4712 SANCERPD (1)
 4715 IVERN (54)
 4312 ALGAKFV (1)
 4815 AKFRV (1)

236 FINE (1)
 243 IAUTMAD (2)
 247 NSETS (1)
 893 ITGONT (1)
 897 MADAUTO (3)
 897 JREFET (1)
 966 CY (1)
 969 PLOTXYZP (1)
 972 REFULL (32)
 1021 DIFAR (30)
 1087 CONTAC (60)
 1187 SENSCHOP (1)
 1212 PREDPOS (3)
 1222 XONTOP (3)
 1244 SHPIPKU (1)
 1623 BUOYNAV (320)
 1951 XBUOYFR (1)
 1995 DELIS (1)
 2022 IP2 (32)
 2056 C (1)
 2065 INGTIM (4)
 2174 IAGGMD (4)
 2140 IRECH (4)
 2146 CASSOUT (1)
 2152 IPASOUT (4)
 2174 ICHNDAT (4)
 2185 IPSVALR (4)
 2195 ACPRIME (1)
 2198 DELYI (1)
 2201 RLPHPTP (1)
 2204 ICFAR (1)
 2326 IORRSC (31)
 2359 IRDSIZE (1)
 2391 ISEASIE (1)
 2394 NPD (1)
 2397 RCNOISE (1)
 2404 SIGMA (1)
 2415 VINLSEA (9)
 2426 XPOCNTP (1)
 2429 DCL23 (1)
 2472 CSPHIR (1)
 2475 PADGRCS (9)
 2466 W3 (21)
 2529 ISIZE (1)
 2540 ISMIT (700)
 2941 YNTYESM (4)
 2950 NUMBIN (1)
 2983 SIG (16)
 3527 COSO (512)
 4679 FY (32)
 4713 OVRANGE (1)
 4779 FELOG (32)
 4813 ALGTWO (1)
 4816 ION (1)

237 FIFE (4)
 245 NPOUPS (1)
 248 ITUNE (1)
 890 JCWN (1)
 895 IATCOOR (1)
 958 IFCFEC (67)
 967 TIMTYCK (1)
 970 PLOTXYZ (1)
 1004 ATOEEF (12)
 1051 CSPOCF (24)
 1147 RNGCIP (16)
 1198 FIXCES (18)
 1215 PCINTFR (2)
 1295 TRACKS (54)
 1295 TRCKSFF (16)
 1943 JCH (4)
 1952 YPUOYPR (1)
 1996 NPNCONT (4)
 2034 LL (1)
 2057 ITHF (4)
 2069 ISELBY (1)
 2138 ISONCLM (1)
 2144 IACSYS (1)
 2147 JAUIC (4)
 2156 JTRCE (16)
 2178 IACDATX (4)
 2190 IROYCNT (1)
 2196 AZSCNLM (1)
 2199 DELYI (1)
 2202 GPZANG (1)
 2205 IPEPSTIS (1)
 2357 IROFIEIX (1)
 2360 YRETUPN (30)
 2392 ITGTN (1)
 2395 PD (1)
 2398 EDPNGNM (1)
 2405 STGMAC (1)
 2424 YSN (1)
 2427 YSDCNTF (1)
 2430 DCL33 (1)
 2433 TSXLDZI (1)
 2464 KDDPCYC (1)
 2487 XFA (121)
 2530 IFAIL (9)
 2840 IPRKFIL (100)
 2945 IOCTAVE (4)
 2951 COSR (16)
 2999 NOIS (16)
 4039 SIND (512)
 4711 ACU (1)
 4714 KDSVTHR (1)
 4811 ALGAKFV (1)
 4814 IFRANC (1)
 4817 GAMMAS (1)

SUBROUTINE CMXDATA

PAGE

12

COC 6600 FYN VX.0-P3AQ OPT=1 78/06/12. 15.45.44.

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

4818	PERPTE (1)
4822	NIUIQUE (10)
4869	MSPIQUE (40)
4986	MAOISD (2)
5342	MUXGRUF (17)
5355	KATGRUF (1024)
7404	MSPRIT (1)
7408	TACHCAP (1)
7412	SIKSO (2)
0	HELIC (5)
55	SONIC (12)
69	JPOINT (1)
72	IOUTB (1)
75	SCI (40)
168	NBUFWO (1)
171	IEPIC (1)
174	ITGET (1)
177	BUDYIC (64)
246	ICFEST (1)
0	ISMONT (1)
3	IATLCT (1)
6	INACNT (1)
9	ICURCNT (1)
12	IPONFEP (1)
15	ITRACS (1)
18	ICSRDFG (1)
21	INFTP (1)
0	TPKTIME (1)
3	IDATLTK (1)
6	HKTIME (1)
9	IDSETP (1)
0	HOPLIN (1)
0	AMCONS (16)
0	EBUECNT (1)
3	IPLCCOR (1)
9	HCOSS (4)
270	KSLEFST (1)
0	IRFUL1 (13)
0	IXFERP (3)

DEFAULT 249

SYNFLG 22

TAGFLGS 12

HORIZN	1
CONST	16
CONCMUX	271

BUFFLAG	26
ERRFLAG	3

STATISTICS

PROGRAM LENGTH	2739	187
COMMON LENGTH	11308	630
BLANK COMMON	163668	7414

4819	KVALFTD (1)	4820	IOAK (2)
4822	NIUCRUF (17)	4849	NIUCRUF (40)
4829	MSPORUF (17)	4946	MSPTBUE (40)
4985	INSPACU (4)	4992	MUXIBUE (50)
5059	MUXARUF (256)	5315	MUXTRUF (40)
6379	KSCORUF (1024)	7403	NIUPIT (1)
7405	MUXBIT (2)	7407	TACRANG (1)
7409	ITACVAL (1)	7410	SIKATC (2)
5	TARGIC (36)	41	QANSIC (144)
67	IRECFIL (1)	68	JKEUN (1)
70	NRA1 (1)	71	INB (1)
73	NRC (1)	74	NPSI7 (1)
155	NACA (12)	167	NRCM (1)
169	NHEN (1)	170	IDECERP (1)
172	INQZEP (1)	173	IEP2C (1)
175	DELXTIC (1)	176	DELVTIC (1)
241	DATUMIC (4)	245	ISCALIC (1)
247	MODESTM (1)	248	ICLIMCS (1)
1	IFIPCAT (1)	2	IREFCNT (1)
4	IDFCNT (1)	5	IC4SCNT (1)
7	ICONENT (1)	8	IRCECNT (1)
10	IFIXCNT (1)	11	ICNTCF (1)
13	IDATUM (1)	14	ISNSETS (1)
16	IPROPOS (1)	17	ISXPCNT (1)
19	INFLCUR (1)	20	IRNGFDG (1)
1	INLNTL (1)	2	YHELCCP (1)
4	IPATCOR (1)	5	IPKVEFP (1)
7	IONTCPE (1)	8	NRFHCCP (1)
10	ICYCOS (1)	11	MSKALFT (1)
1	EMORWSD (1)	2	IFPCINT (1)
4	PCSETTP (1)	5	MSIN (4)
13	MMSGDAT (256)	269	KWMSG (1)
13	IRFUL2 (13)		

```

C-----
C  FUNCTION MUXPACK( SOURCE, N, SIGBIT)
C-----
C  ABSTRACT
C  THIS FUNCTION PACKS A REAL INTO A BINARY OF REQUESTED SIZE
C  THE RESULT HAS THE SIGN BIT EXTENDED THROUGH 60 BITS
C-----
C  SOURCE = REAL VALUE TO BE PACKED
C-----
C  N = NUMBER OF BITS IN RESULT
C-----
C  SIGBIT = REAL VALUE OF MSB OR LSB IN RESULT
C  ( MSB IF POSITIVE, LSB IF NEGATIVE)
C-----
C  CODING HISTORY
C  1. PROGRAMMED--ALEX POOLECKI (GSC) 01/27/78
C-----
C  END OF ABSTRACT
C-----
C  FUNCTION MUXPACK( SOURCE, N, SIGBIT)
C  INITIALIZE RESULT VALUE
C  MUXPACK = 0
C  WORK ONLY WITH POSITIVE SOURCE VALUES
C  WORK = ABS(SOURCE)
C  IF LSB VALUE WAS SUPPLIED
C  IF ( SIGBIT .GT. 0 ) GO TO 10
C  THEN
C  CALCULATE THE MSR VALUE
C  FACTOR = (-SIGBIT) * FLOAT(SHIFT(1,N-1))
C  GO TO 20
C  10 CONTINUE
C  ELSE
C  USE THE MSR VALUE SUPPLIED
C  FACTOR = SIGBIT
C  20 CONTINUE
C  ENDDIF
C  DOWHILE ALL BITS DETERMINED IN RESULT
C  DO 100 K=1,N
C  SHIFT PREVIOUS RESULT OVER ONE BIT
C  MUXPACK = SHIFT( MUXPACK, 1)
C  DETERMINE VALUE OF NEXT BIT IN RESULT
C  NEXT = WORK / FACTOR
C  MERGE IN NEXT BIT WITH PREVIOUS BITS
C  MUXPACK = OR( MUXPACK, NEXT)
C  CALCULATE NEW REMAINDER FROM SOURCE VALUE
C  WORK = WORK - FLOAT(NEXT)*FACTOR
C  CALCULATE REAL VALUE OF NEXT BIT
C  FACTOR = FACTOR / 2.0
C  100 CONTINUE
C  ENDDO
C  IF INITIAL VALUE WAS NEGATIVE
C  IF ( SOURCE .GE. 0 ) GO TO 120

```

CMUX2 380
CMUX2 381
CMUX2 382
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CMUX2 433
CMUX2 434

FUNCT N MUXPACK

```
      C      THEN
      C      COMPLEMENT RESULT
      C      MUXPACK = COMPL(MUXPACK)
      C      GO TO 200
60      C      130 CONTINUE
      C      ELSE
      C      IF RESULT HAS SPILLED OVER INTO SIGN BIT
      C      IF ( SHIFT(MUXPACK,59-N) .GE. 0 ) GO TO 150
      C      THEN
      C      SET RESULT TO *N* CNES
      C      MUXPACK = SHIFT( MASK(N), N)
      C      ELSE
      C      LEAVE RESULT AS IS
      C      150 CONTINUE
      C      ENDIF
70      C      200 CONTINUE
      C      ENDIF
      C      RETURN
      C      END
75
```

CMUX2 435
CMUX2 436
CMUX2 437
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CMUX2 451
CMUX2 452
CMUX2 453
CMUX2 454

FUNCTION MUXPACK

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES
2 MUXPACK	23	74
VARIABLES	SN	TYPE
54 FACTOR	* INTEGER	REAL
55 K	INTEGER	REAL
52 MUXPACK	INTEGER	REAL
0 N	INTEGER	REAL
56 NEXT	INTEGER	REAL
0 SIGBIT	REAL	REAL
0 SOURCE	REAL	REAL
53 WORK	REAL	REAL

INLINE FUNCTIONS

FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
ABS	REAL	1	INTRIN	27
COMPL	NO TYPE	1	INTRIN	58
FLOAT	REAL	1	INTRIN	32
MASK	NO TYPE	1	INTRIN	66
OR	NO TYPE	2	INTRIN	47
SHIFT	NO TYPE	2	INTRIN	32

STATEMENT LABELS

STATEMENT LABELS	DEF LINE	REFERENCES
16 10	34	29
20 20	38	33
0 100	52	41
37 130	60	55
47 150	69	63
47 200	72	59

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
25	100	K	41 52	78	INSTACK

STATISTICS	PROGRAM LENGTH	57B	47
------------	----------------	-----	----

```

C-----
C      FUNCTION K2SCOMP(NUMBER)
C
C      ABSTRACT
C      OBTAINS THE 2'S COMPLEMENT FORM OF A 1'S COMPLEMENT NUMBER
C
C      CODING HISTORY
C      1. PROGRAMMED--ALEX PODLECKI (CSC) 01/30/78
C
C      END OF ABSTRACT
C-----
C
C      FUNCTION K2SCOMP(NUMBER)
C      IF NUMBER IS NEGATIVE
C      IF ( NUMBER .GE. 0 ) GO TO 10
C      THEN
C      2'S COMPLEMENT = 1'S COMPLEMENT + 1
C      K2SCOMP = NUMBER + 1
C      GO TO 20
C      10 CONTINUE
C      ELSE
C      2'S COMPLEMENT = 1'S COMPLEMENT
C      K2SCOMP = NUMBER
C      20 CONTINUE
C      ENDIF
C      RETURN
C      END

```

FUNCTION K2SCOMP

CDC 6500 F-1 V3.0-PR300 OPT=1 7/10/6/12. 15.45.44.

PAGE

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 K2SCOMP 15 28

VARIABLES SN TYPE RELOCATION
14 K2SCOMP INTEGER F.P.
0 NUMBER INTEGER

DEFINED
REFS
20 25
17 20
15

STATEMENT LABELS DEF LINE REFERENCES
10 10 22
12 20 26
21

STATISTICS
PROGRAM LENGTH 158 13

COMMUNICATION SYSTEM CONTROL GROUP MODULE

(CSCG)

[illegible]

SYMBOLIC REFERENCE MAP

VARIABLES	SN	TYPE	RELOCATION	REFS	16	30
1254 BUOYPM	1	INTEGER	ARRAY	REFS	15	DEFINED
1754 HELD	1	REAL	ARRAY	REFS	16	DEFINED
2030 IATOTOG	1	INTEGER	ARRAY	REFS	16	DEFINED
0 IB	1	INTEGER	MODULE	REFS	21	
121 IREFUL1	1	INTEGER	MODULE	REFS	21	DEFINED
136 IREFUL2	1	INTEGER	MODULE	REFS	21	DEFINED
117 IRTSWD	1	INTEGER	MODULE	REFS	21	DEFINED
2004 ICH	1	INTEGER	MODULE	REFS	16	
4 IDATIN	1	INTEGER	MODULE	REFS	21	DEFINED
2027 IDATLKN	1	INTEGER	MODULE	REFS	21	DEFINED
25 IDATOUT	1	INTEGER	MODULE	REFS	21	DEFINED
154 IDATIP	1	INTEGER	MODULE	REFS	21	DEFINED
2541 IDAN	1	INTEGER	MODULE	REFS	16	DEFINED
1 IEROP	1	INTEGER	MODULE	REFS	21	DEFINED
2033 IDATPP	1	INTEGER	MODULE	REFS	16	DEFINED
62 IDLAT	1	INTEGER	MODULE	REFS	21	DEFINED
120 IDLRSM	1	INTEGER	MODULE	REFS	21	DEFINED
3 IDLDT	1	INTEGER	MODULE	REFS	21	DEFINED
153 IDSTATE	1	INTEGER	MODULE	REFS	21	DEFINED
2014 IREFCH	1	INTEGER	MODULE	REFS	16	DEFINED
0 IRTBUFF	1	INTEGER	MODULE	REFS	16	DEFINED
2 IRTSTWD	1	INTEGER	MODULE	REFS	21	DEFINED
155 IRTTR	1	INTEGER	MODULE	REFS	21	DEFINED
2 ITUNE	1	INTEGER	MODULE	REFS	25	DEFINED
2024 IREFERR	1	INTEGER	MODULE	REFS	16	DEFINED
1 JTUNE	1	INTEGER	MODULE	REFS	25	DEFINED
2161 LUPBLK	1	INTEGER	MODULE	REFS	16	DEFINED
1212 LWINRT	1	INTEGER	MODULE	REFS	16	DEFINED
2567 MASTERF	1	INTEGER	MODULE	REFS	16	DEFINED
2543 NAV	1	REAL	MODULE	REFS	14	DEFINED
0 NCOUNT	1	INTEGER	MODULE	REFS	25	DEFINED
1244 NRCVR	1	INTEGER	MODULE	REFS	16	DEFINED
1227 NRCUTPT	1	INTEGER	MODULE	REFS	16	DEFINED
COMMON BLOCKS	LENGTH	1463	MEMBERS - PIAS NAMELENGTH)			
SIMULAT			0 IRTBUFF (550)			
			576 NRCVRS (A)		650 LWINRT (13)	663 NRCUTPT (13)
			1028 ICH (A)		684 BUOYPM (320)	1004 HELC (24)
			1047 IDATLKN (1)		1036 IREFCH (8)	1014 IREFERR (3)
			1137 LUPBLK (240)		1048 IATOTOG (3)	1051 ICACTPP (86)
			1399 MASTERF (54)		1377 IDAN (2)	1379 NAV (120)
MODULE	110		0 IB (1)		1 IEROP (1)	2 IRTSTWD (1)
			3 IDLAT (1)		4 IDATIN (17)	21 ICACTPP (29)
			50 IDLAT (20)		79 IRTSWD (1)	80 IDLRSM (1)
			41 IREFUL1 (13)		94 IREFUL2 (17)	107 ICACTPP (1)
			108 IDATIP (1)		109 IRTTR (1)	2 ITUNE (1)
DRIVER	3		0 NCOUNT (1)		1 JTUNE (1)	

STATISTICS

PROGRAM	LENGTH	OR	0
COMMON	LENGTH	30508	1576


```

115      WRITE(6,10)
116      10 FORMAT(24X,"CHANGE IN BIT STATUS ")
117      WRITE(6,1)
118      SET A BIT IN THE BIT STATUS WORD
119      CALL SETBIT(IBITSWD,7,1)
120      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
121      CALL PRINT
122      CALL CSCG
123      CALL PRINT
124      RESET FLAGS
125      CALL FLAGS
126      -----
127      CSCG SELF TEST SEQUENCE
128      -----
129      WRITE(6,2)
130      WRITE(6,1)
131      WRITE(6,11)
132      11 FORMAT(21X,"CSCG SELF TEST SEQUENCE")
133      WRITE(6,1)
134      SET COMMAND WORD INTO THE INPUT BUFFER
135      IRTBUFF(1,6)=340038
136      SET BUFFER POINTER
137      LWINRT(6)=2
138      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
139      CALL PRINT
140      CALL CSCG
141      CALL PRINT
142      RESET FLAGS
143      CALL FLAGS
144      DECREMENT THE BIT COUNTER
145      DO WHILE I IS LESS THAN 147
146      DO 12 I=1,147
147      CALL CSCG
148      12 CONTINUE
149      ENDDO
150      DO WHILE I IS LESS THAN THREE
151      DO 23 I=1,3
152      CALL CSCG
153      CALL PRINT
154      23 CONTINUE
155      ENDDO
156      WRITE(6,2)
157      WRITE(6,1)
158      WRITE(6,11)
159      45 FORMAT(22X,"CSCG INITIALIZATION SEQUENCE")
160      WRITE(6,1)
161      SET INITIALIZE TERMINAL COMMAND IN INPUT BUFFER
162      IRTBUFF(2,6)=340018
163      SET BUFFER POINTER
164      LWINRT(6)=3
165      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS

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78/06/12. 15.13.24.

```

190 CALL PRINT
191 CALL CSCG
192 CALL PRINT
193 SET INITIATE PROCESSING COMMAND IN INPUT BUFFER
194 IRTBUFF(3,6)=340048
195 SET BUFFER POINTER
196 LWINRT(6)=4
197 CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
198 CALL PRINT
199 CALL CSCG
200 CALL PRINT
201 RESET FLAGS
202 CALL FLAGS
203 -----
204 CSCG NORMAL DATA TRANSFER SEQUENCE
205 -----
206 WRITE(6,2)
207 WRITE(6,1)
208 WRITE(6,55)
209 55 FORMAT(19X,"CSCG NORMAL DATA TRANSFER SEQUENCE")
210 60 FORMAT(30X,"(CSCG TO AYK)")
211 WRITE(6,1)
212 SET NORMAL DATA TRANSFER COMMAND IN INPUT BUFFER
213 IRTBUFF(4,6)=360758
214 SET BUFFER POINTER
215 LWINRT(6)=5
216 SET DATA SENT FLAG TO 1
217 IRTUL2(6)=1
218 CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS
219 CALL PRINT
220 CALL CSCG
221 CALL PRINT
222 RESET FLAGS
223 CALL FLAGS
224 WRITE(6,2)
225 WRITE(6,1)
226 WRITE(6,55)
227 WRITE(6,70)
228 70 FORMAT(30X,"(AYK TO CSCG)")
229 WRITE(6,1)
230 SET NORMAL DATA TRANSFER COMMAND IN INPUT BUFFER
231 IRTBUFF(5,6)=340618
232 SET TEST DATA WORD BLOCK IN INPUT BUFFER
233 IRTBUFF(6,6)=38
234 IRTBUFF(7,6)=10
235 IRTBUFF(8,6)=28
236 IRTBUFF(9,6)=38
237 IRTBUFF(10,6)=48
238 IRTBUFF(11,6)=58
239 IRTBUFF(12,6)=68
240 IRTBUFF(13,6)=78
241 IRTBUFF(14,6)=108
242 IRTBUFF(15,6)=118
243 IRTBUFF(16,6)=128
244

```

Line	Code	Text	Address
225	C	IRTRUFF(17,6)=138	CSCG 246
		IRTRUFF(18,6)=148	CSCG 246
		IRTRUFF(19,6)=158	CSCG 247
		IRTRUFF(20,6)=168	CSCG 249
		IRTRUFF(1,6)=178	CSCG 249
		IRTRUFF(2,6)=208	CSCG 250
	C	SET BUFFER POINTER	CSCG 251
		LWINT(6)=3	CSCG 252
230	C	CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS	CSCG 253
		CALL PRINT	CSCG 254
		CALL CSCG	CSCG 255
		CALL PRINT	CSCG 256
	C	RESET FLAGS	CSCG 257
		CALL FLAGS	CSCG 258
235	C	-----	CSCG 259
	C	CSCG DISCRETES	CSCG 260
	C	-----	CSCG 261
		WRITE(6,2)	CSCG 262
		WRITE(6,1)	CSCG 263
240		WRITE(6,80)	CSCG 264
	80	FORMAT(28X,"CSCG DISCRETES")	CSCG 265
		WRITE(6,1)	CSCG 266
	C	-----	CSCG 267
245	C	CHANGE UHF MODE	CSCG 268
	C	-----	CSCG 269
	C	WRITE(6,2)	CSCG 270
		WRITE(6,90)	CSCG 271
	90	FORMAT(10X,"CHANGE UHF MODE SWITCH SETTING FROM OTPI TO ADF MODE")	CSCG 272
	C	CHANGE SWITCH SETTING FROM OTPI TO ADF MODE	CSCG 273
250	C	CALL SETABT(IATOTOG(1),0,1)	CSCG 274
	C	CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS	CSCG 275
		CALL PRINT	CSCG 276
		CALL CSCG	CSCG 277
		CALL PRINT	CSCG 278
255	C	RESET FLAGS	CSCG 279
		CALL FLAGS	CSCG 280
	C	-----	CSCG 281
	C	CHANGE UHF MODE	CSCG 282
	C	-----	CSCG 283
260		WRITE(6,2)	CSCG 284
		WRITE(6,95)	CSCG 285
	95	FORMAT(14X,"CHANGE SWITCH SETTING FROM ADF MODE TO OTPI MODE")	CSCG 286
	C	CHANGE SWITCH SETTING FROM ADF MODE TO OTPI MODE	CSCG 287
		CALL SETABT(IATOTOG(1),0,0)	CSCG 288
265	C	CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS	CSCG 289
		CALL PRINT	CSCG 290
		CALL CSCG	CSCG 291
		CALL PRINT	CSCG 292
	C	RESET FLAGS	CSCG 293
		CALL FLAGS	CSCG 294
270	C	-----	CSCG 295
	C	SET UHF CHANNEL TO 1	CSCG 296
	C	-----	CSCG 297
	C	WRITE(6,2)	CSCG 298
275		WRITE(6,110)	CSCG 299

DRIVER

PROGRAM

110 FORMAT(24X,"SET UHF-1 CHANNEL TO 1")

SET UHF-1 CHANNEL NUMBER TO 1

CALL SETABIT(IATOTCG(3),6,1)

CALL PRINT

CALL CSCG

CALL PRINT

RESET FLAGS

CALL FLAGS

SET UHF CHANNEL TO 6

WRITE(6,2)

WRITE(6,120)

120 FORMAT(24X,"SET UHF-1 CHANNEL TO 6")

SET UHF-1 CHANNEL NUMBER TO 6

IATOTCG(3)=0

CALL SETABIT(IATOTCG(3),7,1)

CALL SETABIT(IATOTCG(3),8,1)

CALL PRINT

CALL CSCG

CALL PRINT

RESET FLAGS

CALL FLAGS

SET UHF CHANNEL TO 18

WRITE(6,2)

WRITE(6,130)

130 FORMAT(24X,"SET UHF-1 CHANNEL TO 18")

SET UHF-1 CHANNEL NUMBER TO 18

IATOTCG(3)=0

CALL SETABIT(IATOTCG(3),9,1)

CALL SETABIT(IATOTCG(3),11,1)

CALL PRINT

CALL CSCG

CALL PRINT

RESET FLAGS

CALL FLAGS

SET UHF CHANNEL TO 32

WRITE(6,2)

WRITE(6,140)

140 FORMAT(24X,"SET UHF-1 CHANNEL TO 32")

SET UHF-1 CHANNEL NUMBER TO 32

CALL SETABIT(IATOTCG(3),5,0)

CALL SETABIT(IATOTCG(3),7,1)

CALL SETABIT(IATOTCG(3),11,1)

CALL SETABIT(IATOTCG(3),10,1)

CALL PRINT

CALL CSCG

CALL PRINT

RESET FLAGS

CALL FLAGS

CSCG 300
CSCG 301
CSCG 302
CSCG 303
CSCG 304
CSCG 305
CSCG 306
CSCG 307
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CSCG 312
CSCG 313
CSCG 314
CSCG 315
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CSCG 354


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335      C      CSCG EXTERNAL INPUTS
336      C
337      C
338      C
339      C
340      C      D/L MODE
341      C
342      C      WRITE(6,2)
343      C      WRITE(6,1)
344      C      WRITE(6,150)
345      C      150 FORMAT(25X,"CSCG EXTERNAL INPUTS")
346      C      WRITE(6,1)
347      C      WRITE(6,2)
348      C      WRITE(6,160)
349      C      160 FORMAT(24X,"** D/L MODE **")
350      C      SET D/L MODE TO ASND
351      C      IDATLNK=2
352      C      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
353      C      CALL PRINT
354      C      CALL CSCG
355      C      CALL PRINT
356      C      RESET FLAGS
357      C      CALL FLAGS
358      C
359      C      SONORUOY RECEIVER SIGNAL STRENGTH
360      C
361      C      WRITE(6,2)
362      C      WRITE(6,165)
363      C      165 FORMAT(19X,"** SONC SCVR SIGNAL STRENGTH **")
364      C      SET THE POSITION OF THE HELC
365      C      HELC(13)=1000.
366      C      HELC(14)=1000.
367      C      HELC(15)=1000.
368      C      SET THE POSITION OF THE BUCVS
369      C      BUOYRN(2,1)=1000.
370      C      BUOYRN(3,1)=2000.
371      C      BUOYRN(2,2)=1000.
372      C      BUOYRN(3,2)=500.
373      C      DO 200 I=3,7
374      C          BUOYRN(2,I)=(I-1)*1000.
375      C          BUOYRN(3,I)=1000.
376      C
377      C      200 CONTINUE
378      C      BUOYRN(2,8)=-2000.
379      C      BUOYRN(3,8)=1000.
380      C      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
381      C      CALL PRINT
382      C      CALL CSCG
383      C      CALL PRINT
384      C      RESET FLAGS
385      C      CALL FLAGS
386      C      SHIFT HELC POSITION
387      C      WRITE(6,220)
388      C      220 FORMAT(25X,"SHIFT HELC POSITION")
389      C      HELC(13)=0.
390      C      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
391      C      CALL PRINT
392      C
393      C
394      C
395      C
396      C
397      C
398      C
399      C
400      C
401      C
402      C
403      C
404      C
405      C
406      C
407      C
408      C
409      C

```

```

CALL CSCG
CALL PRINT
C      RESET FLAGS
CALL CSCG
C      CALL FLAGS
CALL CSCG
390    C      SHIFT HELO ALTITUDE
WRITE(6,2)
WRITE(6,230)
230   FORMAT(25X,"SHIFT HELO ALTITUDE")
HEL0(15)=3000.
395    C      CHECK VARIABLES, CALL CSCG, AND CHECK THE RESULTS
CALL PRINT
CALL CSCG
CALL PRINT
C      OTPI BEARING FOR CASS BUOY IN CHUTE 2
C
C      WRITE(6,2)
WRITE(6,550)
550   FORMAT(26X,"** OTPI BEARING **")
INDICATE CASS BUOY IN CHUTE 2
BUOYSW(1,2)=1
C      SET VHF TRANS. ON
C      HASTPF(2,1)=1
C      SET PING TIME
C      BUOYSW(6,2)=5
410    C      SET IN WATER FLAG
SET IN WATER FLAG
BUOYSW(4,2)=1
C      SET RF NUMBER FOR BUOY IN CHUTE 2
C      BUOYSW(10,2)=10
415    C      SET RF EQUAL TO 10 IN KEYSET
IATOTOG(3)=40008
C      MAKE SURE UHF IN OTPI POCE
IATOTOG(1)=0
C      CHECK VARIABLES, CALL CSCG, AND PRINT THE RESULTS
CALL PRINT
CALL CSCG
CALL PRINT
STOP5
END

```


FILE NAMES
4044 TAPE4
2022 TAPE6MODE
FMT

WRITES	48	49	50	52	57	58	59
65	66	78	79	91	92	109	110
113	125	126	127	129	156	157	158
182	183	184	186	188	201	202	203
206	238	239	240	242	248	247	260
274	275	287	288	302	303	317	261
337	338	340	341	342	355	356	376
391	392	402	403				381

4044 WRONG

EXTERNALS TYPE ARGS REFERENCES

CSOG	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----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STATEMENT LABELS DEF LINE REFERENCES

STATEMENT LABELS	DEF LINE	REFERENCES
7131 1	17	46
7134 2	18	160
0 3	36	48
0 4	43	57
7136 5	51	238
7142 6	60	355
7147 7	67	33
7153 8	80	41
7157 9	93	50
7163 10	112	56
7167 11	128	66
0 12	144	79
0 20	151	92
7173 45	159	111
7200 55	185	127
7206 60	187	142
7211 70	205	147
7214 80	241	158
7220 90	247	184
7227 95	262	186
7236 110	276	204
7242 120	289	240
7246 130	304	247
7252 140	319	261
		275
		288
		303
		318
		203

STATEMENT LABELS

STATEMENT	LABELS	DEF LINE	REFERENCES
7256	150 FMT	339	338
7262	160 FMT	343	342
7266	165 FMT	357	356
0	200	370	367
7273	220 FMT	382	381
7277	230 FMT	393	392
7303	550 FMT	404	403

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
6113	3	N	33 36	28	INSTACK
6120	4	* I	41 43	28	INSTACK
6313	12	* I	142 144	58	EXT PEFS
6321	20	* I	147 151	118	EXT PEFS
6737	200	* I	367 370	58	INSTACK

COMMON BLOCKS LENGTH 1463

MEMBERS - RIAS NAME(LENGTH)

650	LWINPT (13)	653	NACUTPT(13)
684	BUCVOW (720)	1004	WFLC (24)
1036	ISFCH (8)	1044	IXFERP(13)
1048	IATCTOG(3)	1051	ICATF(16)
1377	IDAW (12)	1379	NAV (20)

676	NPCVR (8)	1	IFPPOP (1)
1028	ICH (8)	4	IDATIN (17)
1047	IDATLNK(1)	79	IPITSW(1)
1137	LUPOLK (240)	94	IBFUL2 (13)
1399	MASSTR (64)	109	IPY(1)
0	IP (1)	1	JTUNE (1)
3	IOLDR1 (1)		
50	IOLCAT (29)		
81	IBFUL1 (13)		
108	IDATIR (1)		
0	NCOUNT(1)		

MODULE 110

DRIVER 3

STATISTICS

PROGRAM LENGTH	12438	675
BUFFER LENGTH	60668	3126
COMMON LENGTH	30508	1576

ENTRY POINTS DEF LINE REFERENCES
1 13 35

VARIABLES	SN	TYPE	RELOCATION	REFS
1254 BUOVRW	1	INTEGER	ARRAY	REFS
1754 HELD	1	REAL	ARRAY	REFS
2030 IATOTOG	1	INTEGER	ARRAY	REFS
0 IB	1	INTEGER	MODULE	REFS
121 IBFUL1	1	INTEGER	MODULE	REFS
136 IBFUL2	1	INTEGER	MODULE	REFS
117 IBTWSO	1	INTEGER	MODULE	REFS
2004 ICH	1	INTEGER	MODULE	REFS
4 IDATIN	1	INTEGER	MODULE	REFS
2027 IDATLNK	1	INTEGER	MODULE	REFS
25 IDATCUT	1	INTEGER	MODULE	REFS
154 IDATTR	1	INTEGER	MODULE	REFS
2541 IDAW	1	INTEGER	MODULE	REFS
1 IERROR	1	INTEGER	MODULE	REFS
2033 IDATPP	1	INTEGER	MODULE	REFS
62 IDLAT	1	INTEGER	MODULE	REFS
120 IDLDRSH	1	INTEGER	MODULE	REFS
3 IDLDRF	1	INTEGER	MODULE	REFS
153 IDSTATE	1	INTEGER	MODULE	REFS
2014 IREFCH	1	INTEGER	MODULE	REFS
0 IRTBUFF	1	INTEGER	MODULE	REFS
2 IRTSWO	1	INTEGER	MODULE	REFS
155 IRTTR	1	INTEGER	MODULE	REFS
2024 IREFERR	1	INTEGER	MODULE	REFS
2161 LUPBLK	1	INTEGER	MODULE	REFS
1212 LWINRT	1	INTEGER	MODULE	REFS
2567 MASTRF	1	INTEGER	MODULE	REFS
2543 NAV	1	REAL	MODULE	REFS
1244 NRCVR	1	INTEGER	MODULE	REFS
1227 NRCUTRY	1	INTEGER	MODULE	REFS

MEMBERS - BIAS NAME(LENGTH)

COMMON BLOCKS	LENGTH	1463
0 IRTBUFF (650)	650	17
676 NRCVR (4)	676	17
1028 ICH (4)	1028	17
1047 IDATLNK (1)	1047	17
1137 LUPBLK (240)	1137	17
1399 MASTRF (64)	1399	17
0 IB (1)	0	17
3 IDLAT (1)	3	17
50 IDLAT (29)	50	17
81 IBFUL1 (13)	81	17
108 IDATTR (1)	108	17
1 IERROR (1)	1	17
4 IDATIN (17)	4	17
79 IDTWSO (1)	79	17
94 IBFUL2 (13)	94	17
109 IRTTR (1)	109	17
663 NRCUTRY (17)	663	17
1004 HELC (24)	1004	17
1044 IREFERR (3)	1044	17
1051 ICACTFF (16)	1051	17
1379 NAV (20)	1379	17
2 IRTSWO (1)	2	17
21 ICACTOUT (29)	21	17
80 ICLPSSK (1)	80	17
107 JCSSTATE (1)	107	17

STATISTICS
PROGRAM LENGTH 58
COMMON LENGTH 30458

```

C-----CSCG
C SUPRCUTLINE PRINTCSCG
C C
C ABSTRACTCSCG
C PRINT DISPLAYS THE VALUES OF ALL RELEVANT CSCG VARIABLES
C WHEN CALLED BY THE DRIVER PROGRAM.CSCG
C CGOING HISTORYCSCG
C I. PROGRAMMED J. MANGES CSC DEC 1977CSCG
C END CF ABSTRACTCSCG
C-----CSCG
C SUPRCUTLINE PRINTCSCG
C REAL NAVSIMUL
C INTEGER BUOYRMSIMUL
C COMMON/STIMULA/IPTBUFF(50,13),LWINT(13),NMOUTP(13),NFOVR(8),
C *BUOYNV(10,32),HELO(24),ICRH(8),IXFRERR(3),IDATLNK,CSCG
C *IATOTOG(3),IOADTPP(66),LCPSLK(240),IDAV(2),NAV(20),MASTRF(32,2)SIMUL
C CSCG
C COMMON/MODULE/YIB,IERSOP,IPTSTWC,TOLORT,IDATIN(17),IOATCUT(29),MCD
C *IOLDAT(29),IBITSWD,ICLCRSW,ISFUL(13),ISFUL2(13),ICSTATE,IDATR,MCD
C *IRTRPCSCG
C COMMON/DRIVER/NCOUNT,P,JUNE,IITNECPIVE
C CSCG
C WRITE OUT THE VALUES OF THE FLAGSOSCF
C CALL READBIT(IDAM(2),6,IPDATA)CSCG
C CALL READBIT(IDAM(1),6,ITATAVR)CSCG
C WRITE(6,20)CSCG
C 20 FORMAT('1'',2X,'VALUES OF FLAGS'//')CSCG
C WRITE(6,25) ISFUL(16)CSCG
C 25 FORMAT(2X,*STATUS SENT FLAG*,I2)CSCG
C WRITE(6,27) ISFUL2(16)CSCG
C 27 FORMAT(2X,"DATA SENT FLAG",I2)CSCG
C WRITE(6,30) IPDATA/CSCG
C 30 FORMAT(2X,*PP DATA AVAILABLE FLAG*,I2)CSCG
C WRITE(6,35) IDATAVPCSCG
C 35 FORMAT(2X,*DATA AVAILABLE FLAG*,I2)CSCG
C WRITE(6,47) ICSTATECSCG
C 47 FORMAT(2X,*QUISCENT STATE FLAG*,I2)CSCG
C WRITE(6,48) INTTCCSCG
C 48 FORMAT(" SEND RT STATUS WORD FLAG",I2)CSCG
C WRITE(6,49) IDATTCCSCG
C 49 FORMAT(" SEND DATA WORD BLOCK FLAG",I2)CSCG
C WRITE(6,50) IEPRORCSCG
C 50 FORMAT(" INVALID CSCG WORD ERROR FLAG",I2///)CSCG
C CSCG
C WRITE CUT BIT BY BIT THE RT WCPDSOSCF
C CSCG
C WRITE(6,60)CSCG
C 60 FORMAT ('17X,"***** RT WORDS *****'//)CSCG
C CALL BITS(IRISTWO,1)CSCG
C CALL BITS(IBITSWD,4)CSCG

```



```

      CALL BITS(IOLOPT,5)
      CALL BITS(IOLOPSW,8)
C-----
C
C  WRITE OUT THE DATA WORDS
C-----
C
C  CALL DATARDS
C-----
C
C  WRITE OUT THE CONTENTS OF THE INPUT BUFFER
C-----
C
      WRITE(6,80)
      80 FORMAT(//15X,***** CONTENTS OF THE INPUT BUFFER *****//)
C
      DO WHILE I IS LESS THAN TWENTY
      DO 100 I=1,20
      CALL BITS(IRIBUFF(I,6),9)
      100 CONTINUE
C
      ENDDO
C-----
C
C  WRITE OUT THE DATA LINK MODE
C-----
C
      WRITE(6,110) IDATLNK
      110 FORMAT(//15X,***** DATA LINK MODE INDICATOR =",I2)
C
      WRITE OUT THE OTPI BEARING
C-----
C
      WRITE(6,120) NAV(13)
      120 FORMAT(//15X,***** OTPI BEARING =",F10.4//)
C
      WRITE OUT THE DISCRETE ARRAY
C-----
C
      WRITE(6,125)
      125 FORMAT(//18X,***** VALUES OF DISCRETES *****//)
C
      DO WHILE I IS LESS THAN THREE
      DO 150 I=1,3
      CALL BITS(IATOTCG(I),9)
      150 CONTINUE
C
      ENDDO
C-----
C
C  WRITE OUT THE VALUE OF THE BIT COUNTER
C-----
C
      WRITE(6,350) NCOUNT
      350 FORMAT(//15X,***** BIT COUNTER = ",I4//)
C
      WRITE OUT THE VALUES OF THE INPUT BUFFER POINTERS
C-----
C
      WRITE(6,440) LWINPT(6),NACUTR(6)
      440 FORMAT(1X,"LWINPT(6)=",I4,4X,"NACUTR(6)=",I4)
C
      WRITE OUT THE ERROR FLAGS
C-----
C
      WRITE(6,500)
      500 FORMAT(//26X,***** ERROR WORDS *****//)
C
      DO WHILE I IS LESS THAN THREE
      DO 550 I=1,3
      CALL BITS(IXFREEP(I),9)
      550 CONTINUE

```

519 C500
 520 C500
 521 C500
 522 C500
 523 C500
 524 C500
 525 C500
 526 C500
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 529 C500
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 558 C500
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 562 C500
 563 C500
 564 C500
 565 C500
 566 C500
 567 C500
 568 C500
 569 C500
 570 C500
 571 C500
 572 C500
 573 C500

SUBROUTINE PRINT

C ENDDC
RETURN
END

COC 5600 FYN V3.0-P380 CPT=1 7P/06/12. 15.13.24.

CSCC 574
CSCC 575
CSCC 576

PAGE

7

SUBROUTINE PRINT

SYMB IC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
1 PRINT 11 112

VARIABLES SN TYPE RELOCATION

1254	BUOYRM	INTEGER	ARRAY	SIMULAT	14	15			
1754	HELO	REAL	ARRAY	SIMULAT	15	89			
342	I	INTEGER	ARRAY	SIMULAT	69	89			
2030	IATOTOG	INTEGER	ARRAY	SIMULAT	15	89			
0	IB	INTEGER	MODULE	MODULE	20	33			103
121	IRFUL1	INTEGER	ARRAY	MODULE	20	35			
136	IRFUL2	INTEGER	ARRAY	MODULE	20	35			
117	IRITSMD	INTEGER	MODULE	MODULE	20	55			
2004	ICH	INTEGER	ARRAY	SIMULAT	15	39			
341	IDATVAB	INTEGER	ARRAY	MODULE	20	75			
4	IDATIN	INTEGER	ARRAY	SIMULAT	15	45			
2027	IDATLNK	INTEGER	ARRAY	MODULE	20	29			
25	IDATCUT	INTEGER	ARRAY	MODULE	20	47			
154	IDATIR	INTEGER	ARRAY	SIMULAT	15	30			
2541	IDAM	INTEGER	ARRAY	MODULE	20	57			
1	IERSCR	INTEGER	ARRAY	MODULE	20	56			
2033	IDATTPP	INTEGER	ARRAY	SIMULAT	15	37			
62	IDDAT	INTEGER	ARRAY	MODULE	20	41			
120	IDLDBSM	INTEGER	MODULE	MODULE	20	69			
3	IDLDPT	INTEGER	MODULE	MODULE	20	54			
340	IPDATA	INTEGER	MODULE	MODULE	29	43			
153	IQSTATE	INTEGER	MODULE	MODULE	20	109			
2014	IRFCH	INTEGER	ARRAY	SIMULAT	15	100			
0	IRTBUFF	INTEGER	ARRAY	SIMULAT	15	15			
2	IRTSMD	INTEGER	MODULE	MODULE	20	95			
155	IRTR	INTEGER	MODULE	MODULE	20	100			
2	ITUNE	INTEGER	DRIVER	DRIVER	24	37			
2024	IXFRERR	INTEGER	ARRAY	SIMULAT	15	30			
1	JTUNE	INTEGER	ARRAY	MODULE	24	89			
2161	LUPBLK	INTEGER	ARRAY	MODULE	15	41			
1212	LWINRT	INTEGER	ARRAY	SIMULAT	15	95			
2567	MASTRF	INTEGER	ARRAY	SIMULAT	15	109			
2543	NAV	REAL	ARRAY	SIMULAT	13	80			
0	NCONTR	INTEGER	DRIVER	DRIVER	24	15			
1244	NPCVR	INTEGER	ARRAY	SIMULAT	15	95			
1227	NHOUTRT	INTEGER	ARRAY	SIMULAT	15	100			

FILE NAMES MODE
TAPE6 FMT

WRITES 47
REFERENCES 55
EXTERNALS 2
BITS 54
DATAWOS 61
READBIT 29

31 33 35 37 39 41 43 45
52 65 75 80 85 95 100 105

STATEMENT LEVELS

DEF LINE REFERENCES

STATEMENT	DEF LINE	REFERENCES
211 20	31	
215 25	32	
221 27	33	
225 30	34	
231 35	36	
235 47	37	
241 48	38	
246 49	39	
253 50	40	
260 60	41	
266 80	42	
0 100	43	
275 110	44	
302 120	45	
306 125	46	
0 150	47	
314 350	48	
320 440	49	
325 500	50	
0 550	51	

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
102 100	* I		68 70	68	EXT REFS
126 150	* I		88 90	18	EXT REFS
154 550	* I		102 110	18	EXT REFS

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

COMMON BLOCKS	LENGTH	MEMBERS	BIAS NAME(LENGTH)
SIMULAT	1463		
		0	IRTSUFF(550)
		676	NSCVP (8)
		1029	ICH (8)
		1047	IDAYLNK(1)
		1137	LUPBLK (240)
		1399	MASTRF (64)
		0	IR (1)
		3	IOLORT (1)
		50	IOLOAT (29)
		81	IBFUL1 (13)
		108	IDAYTR (1)
		0	NCOUNTIR(1)

MODULE 110

DRIVER 3

STATISTICS

PROGRAM LENGTH	3438	227
COMMON LENGTH	3050B	1576

650	LWINPT (17)	663	NVCLTRY (13)
684	BUCHPM (328)	1004	HELC (24)
1036	IFECH (8)	1044	TXREFR(3)
1048	IATOTCG(3)	1051	ICACTPP (96)
1377	IDAW (2)	1379	NAV (20)
1	ISDOP (2)	2	ISISTAR(1)
4	IOATIN (17)	21	IOATCUT (29)
79	IBITSWO(1)	80	ICLPSW(1)
94	IBFUL2 (13)	107	ICSTATE(1)
109	IPYTR (1)	2	ITUNE (1)
1	JTUNE (1)		


```

C-----
C SUBROUTINE DATAWD5
C
C ABSTRACT
C THIS SUBROUTINE PRINTS OUT ALL THE CSCG DATA WORDS WHEN
C CALLED BY THE PRINT SUBROUTINE.
C CODING HISTORY
C 1. PROGRAMMED J. MANGES CSC FEB, 1978
C END OF ABSTRACT
C-----
C SUBROUTINE DATAWD5
C DIMENSION INBIT(17,17), IOUTBIT(29,17)
C
C REAL NAV
C INTEGER BUOVRN
C COMMON/SIMULAT/VRTBUFF(50,13),LWINPT(13),NWOUTBIT(13),NRCV(18),
C *BUOVRN(10,32),HELO(24),ICM(18),IRFCH(8),IXFER(3),IDATLNK,
C *IATOTOG(3),IOACTPO(86),LUP2LK(242),IDAM(2),NAV(20),MASTREF(32,2)
C
C COMMON/MODULE/13,IEROP,IPSTWC,IOLDRT,IOATYIN(17),IOATYOUT(29),
C *IOLDAT(29),IRITSWD,IOLCSW,IRFUL(13),IRFUL2(13),ICSTATE,ICATPR,
C *IRITP
C
C WRITE(6,10)
C 10 FORMAT('///1X,"DATA WORDS FROM AVK",19X,"DATA WORDS TO AVK"//')
C DO WHILE J IS LESS THAN 17
C DO 30 J=1,17
C DO WHILE I IS LESS THAN SIXTEEN
C DO 20 I=1,16
C N=I-1
C CALL READBIT(IDATYIN(J),N,IANSWER)
C INBIT(J,I)=IANSWER
C CONTINUE
C ENDDO
C 20 CONTINUE
C 30 CONTINUE
C ENDDO
C DO WHILE J IS LESS THAN TWENTY NINE
C DO 50 J=1,29
C DO WHILE I IS LESS THAN SIXTEEN
C DO 40 I=1,16
C N=I-1
C CALL READBIT(ICATOUT(J),N,IANSWER)
C IOUTBIT(J,I)=IANSWER
C CONTINUE
C ENDDO
C 40 CONTINUE
C 50 CONTINUE
C ENDDO
C DO WHILE J IS LESS THAN SEVENTEEN
C DO 70 J=1,17
C JM=J-1
C WRITE(6,60) JM,((INBIT(J,17-I),I=1,16),((IOUTBIT(J,17-I),I=1,16))
C 60 FORMAT(1X,I4,2X,16(2,5X,16I2)
C 70 CONTINUE
C DO WHILE J IS LESS THAN TWENTY-NINE

```

SUBROUTINE DATARDS

CUC 6400 ETN V3.0-P380 CPT=1 7/12/12. 15.13.24.

PAGE

2

DO 80 J=13,29

JM=J-1

WRITE(6,75) JM,(ICUBIT(J,17-I),I=1,16)

75 FORMAT(1X,I4,39X,16I2)

80 CONTINUE

ENDDO

RETURN

END

60

C

CSCG 652
CSCG 653
CSCG 654
CSCG 655
CSCG 656
CSCG 657
CSCG 658
CSCG 659

SUBJECT: TIME DATAWDS

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES
1	DATAWDS	62
VARIABLES	SN	TYPE
1254 BUOVRM	INTEGER	15
1754 HELD	REAL	16
150 I	INTEGER	31
152 IANSWER	INTEGER	30
2030 IATOTOG	INTEGER	32
0 IB	INTEGER	16
121 IFUL1	INTEGER	21
136 IFUL2	INTEGER	21
117 IRTSMD	INTEGER	21
2004 ICH	INTEGER	16
4 IDATIN	INTEGER	21
2027 IDATLNK	INTEGER	16
25 IDATCUT	INTEGER	21
154 IDATTR	INTEGER	21
2541 IDAM	INTEGER	16
1 IEORCR	INTEGER	21
154 INBIT	INTEGER	12
2033 IOACTPP	INTEGER	16
62 IOLOAT	INTEGER	21
120 IOLOBSW	INTEGER	21
3 IOLOST	INTEGER	21
615 IOUBIT	INTEGER	12
153 IQSTATE	INTEGER	21
2014 IQFCH	INTEGER	15
0 IRTBUFF	INTEGER	16
2 IPTSTWD	INTEGER	21
155 IRTTR	INTEGER	21
2024 IXFRERR	INTEGER	16
147 J	INTEGER	32
153 JM	INTEGER	52
2161 LUPBLK	INTEGER	16
1212 LWINRT	INTEGER	16
2567 MASTERF	INTEGER	16
151 N	INTEGER	32
2543 NAV	REAL	14
1244 NRCVP	INTEGER	16
1227 NMOUTRT	INTEGER	16
FILE NAMES	MODE	WRITES
TAPES	FMT	25
EXTERNALS	TYPE	REFERENCES
READBIT	ARGS	32
	3	43

SUBROUTINE DAYWDS

DIFF LINE REFERENCES

STATEMENT LABELS

132 10 FMT

0 20

0 30

0 40

0 50

141 60 FMT

0 70

144 75 FMT

0 80

25

30

34

41

47

53

54

59

60

PROPERTIES

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

EXT REFS NOT INNER

LENGTH

168

118

168

138

358

138

118

248

118

FROM-TO

28 36

30 34

35 47

41 45

50 54

52

52

56 60

52

MEMBERS - BIAS NAME(LENGTH)

0 IOTPUFF(650)

676 NRCVR (8)

1028 ICH (8)

1047 IDATLNC(1)

1137 LUPPLK (240)

1399 MASTRF (64)

0 IR (1)

3 IOLCMT (1)

50 IOLCAT (29)

81 IBFUL1 (13)

108 IDATTP (1)

650 LWINT (13)

684 BUOYON (320)

1036 IPECH (8)

1048 IATOTOC(3)

1377 ICAN (2)

1 IEPPOD (1)

4 IDATIN (17)

79 IRITSMO(1)

94 IPFUL2 (13)

109 IRITP (1)

653 NAOLTRY (13)

1004 HELC (124)

1044 IXPFRERR(3)

1051 ICACTPOT(6)

1379 NAV (120)

2 ISTSIWD(1)

21 ICATOUT(29)

80 ICLOPSW(1)

107 ICSTATE(1)

MODULE 110

STATISTICS

PROGRAM LENGTH 15728 890

COMMON LENGTH 30458 1573


```

C 20 IF IRTBUFF(IR,6) EQUALS 34061B
C THEN
C DATA TRANSFER IS OK TO C5CG
C CALL THE NORMAL DATA PROCESSING ROUTINE
C CALL C5CGNDP(0)
C GO TO 90
C ELSE
C -----
C 65 CHECK FOR INITIALIZE TERMINAL
C -----
C IF IRTBUFF(IR,6) EQUALS 34001B
C IF(IRTBUFF(IR,6).NE.34001B) GO TO 40
C THEN
C OVERIDE BIT IF ON
C ACOUNT6=0
C RESET STATUS AND DATA SENT FLAGS
C IRTUL1(6)=0
C IRTUL2(6)=0
C SET PP AND RT DATA AVAILABLE BITS EQUAL
C IRTAW(1)=IRTAW(1).OR.40B
C IRTAW(2)=IRTAW(2).OR.40B
C SET RECEIVE BUSY FLAG TO 0
C CALL SETARIT(IRTSMO,9,0)
C SET QUIESCENT STATE FLAG
C YQSTATE=1
C GO TO 85
C ELSE
C -----
C 85 CHECK FOR INITIATE PROCESSING
C -----
C IF IRTBUFF(IR,6) EQUALS 34004B
C IF(IRTBUFF(IR,6).NE.34004B) GO TO 50
C THEN
C RESET QUIESCENT STATE FLAG
C YQSTATE=0
C SET FLAG TO TRANSMIT DATA WORDS
C IRTATF=1
C GO TO 80
C ELSE
C -----
C 95 CHECK FOR INITIATE BIT SELF TEST
C -----
C IF IRTBUFF(IR,6) EQUALS 34003B
C IF(IRTBUFF(IR,6).NE.34003B) GO TO 60
C THEN
C INITIALIZE COUNTER FOR BIT SELF TEST
C ACOUNT6=IRTICR
C SET RECEIVE BUSY BIT IN RT STATUS WORD
C CALL SETARIT(IRTSMO,9,1)
C SET FLAG TO TRANSMIT RT STATUS WORD
C IRTTP=1
C GO TO 75
C ELSE
C -----
C 100
C -----
C 105
C -----
C 110
C -----

```



```
115 C C-----
C CHECK FOR INV. LD CSCG WORD
C-----
C SET ERROR FLAG IF IRTBUFF(19,6) IS 0
C THAN IDENTICALLY ZERO
C IF IRTBUFF(19,6) NOT EQUAL TO ZERO
C IF(IRTBUFF(19,6).EQ.0) GO TO 70
C THEN
C SET ERROR FLAG
C IERROR=1
C GO TO 70
C ELSE
C IRTBUFF(19,6) IS ZERO
C CONTINUE
C ENDIF
120 C C-----
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
125 C C-----
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
130 C C-----
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
135 C C-----
C ZERO OUT THE INPUT BUFFER ELEMENT JUST READ AND INCREMENT THE
C POINTER
C-----
C IRTBUFF(19,6)=0
C IB=IB+1
C CHECK FOR BUFFER WRAP AROUND
C-----
C IF IB IS GREATER THAN NUMBDS
C IF(19,6).GT.NUMBDS) GO TO 105
C THEN
C RESET POINTER TO BEGINNING
C IB=1
C GO TO 105
C ELSE
C CHECK FOR EOI
140 C C-----
C CONTINUE
C ENDIF
C CHECK FOR EOI
145 C C-----
C IF IB EQUALS IF
C IF(19,6).EQ.1) GO TO 107
C THEN
C RESET NWCUTPT(6)
C NWCUTPT(6)=IB
C BUFFER PROCESSING IS COMPLETED
C JUMP TO BIT COUNTER PROCESSING SECTION
C GO TO 130
C ELSE
150 C C-----
C CONTINUE
C ENDIF
155 C C-----
C CONTINUE
C ENDIF
160 C C-----
C CONTINUE
C ENDIF
165 C C-----
C CONTINUE
C ENDIF
```

```
170 C 107 CONTINUE TO READ IN FROM INPUT BUFFER
    C 108 GO TO 10
    C CONTINUE
    C ENDIF
    C ELSE
    C 120 NOTHING IN INPUT BUFFER SO SKIP INPUT PROCESSING THIS CALL
    C 120 CONTINUE
    C ENDIF
    C-----
    C 175 DO BIT COUNTER PROCESSING
    C-----
    C IF BIT IS IN PROGRESS
    C 130 IF(NCOUNTER.EQ.0) GO TO 185
    C THEN
    C DECREASE THE BIT COUNTER BY ONE
    C NCOUNTER=NCOUNTER-1
    C-----
    C CHECK FOR END OF BIT
    C-----
    C IF NCOUNTER IS EQUAL TO ZERO
    C IF(NCOUNTER.NE.0) GO TO 180
    C THEN
    C BIT HAS ENDED SO SET RECEIVE BUSY BIT TO ZERO
    C CALL SETBIT(IRYSMD,9,0)
    C GO TO 180
    C ELSE
    C BIT IS ON SO CONTINUE
    C 180 CONTINUE
    C ENDIF
    C ELSE
    C 185 CONTINUE ON- BIT NOT IN PROGRESS
    C 185 CONTINUE
    C ENDIF
    C-----
    C 200 CHECK FOR QUIESCENT STATE
    C IF CSCG NOT IN A QUIESCENT STATE
    C IF(IGSTATE.EQ.1) GO TO 300
    C THEN
    C-----
    C 205 CHECK FOR BIT SELF TEST IN PROGRESS
    C-----
    C IF BIT IS NOT ON OR HAS ONLY JUST REGUN
    C IF((NCOUNTER.NE.0).AND.(NCOUNTER.NE.(IBITOTR-1))) GO TO 295
    C THEN
    C-----
    C 210 CHECK FOR MANUAL OF AUTO UHF MODE
    C-----
    C CALL READBIT(IGATIN(8),15,JJ)
    C IF UHF IS IN MANUAL MODE
    C IF(JJ.EQ.1) GO TO 195
    C THEN
    C READ IN OPR/ATF MODE SETTING AND CHANNEL SELECTION
    C FROM DISCRETES
    C CALL UDICP
    C 190
    C 220
```

```

      GO TO 195
    ELSE
      LEAVE UHF-1 SETTINGS AS RECEIVED VIA SOFTWARE
    CONTINUE
  195  ENDOF
  225  -----
      UPDATE STATUS OF CSCG PERIPHERALS AND MAKE DATA WORD THA
      (O/L MODE AND SONOPUCY ROVRS SIGNAL STRENGTH)
  230  -----
      CALL PERIPHL
  235  -----
      OUTPUT SONOBUOY RECEIVER UNIT CHANNEL SELECTIONS TO
      SONOPOY ROUTINE
  240  -----
      CALL SONCINF
      OUTPUT OPI BEARING TO OTOA ROUTINE
  245  -----
      CALL OTOAINF
      CHECK TO SEE IF PP DATA AVBL FLAG AND DATA AVBL FLAG
      ARE EQUAL
  250  -----
      CALL READBIT(IDAK(1),IT,IDATAV8)
      CALL READBIT(IDAK(2),IT,IPDATA)
      IF IPDATA IS EQUAL TO IDATAV8
      IF(IPDATA.NE.IDATAV8) GO TO 255
      THEN
        CHECK OUTPUT BUFFER FULL FLAGS
  255  -----
        IF IPFUL1(6) AND IPFUL2(6) ARE ZERO
        IF((IPFUL1(6).EQ.1).OR.(IPFUL2(6).EQ.1)) GO TO 280
        THEN
          INITIALIZE WORD COUNTED TO ONE
          NPFWS=1
        CHECK FOR CHANGE IN BIT STATUS WORD
  260  -----
        IUPS=AND(IPTSWD,COMPL(IOLDPSW))
        IF IUPS NOT EQUAL TO ZERO
        IF(IUPS.EQ.0) GO TO 210
        THEN
          LOAD THE INPUT ARRAY
          LUPPLK(202)=IUPS
          SET THE T/F BIT IN THE RT STATUS WORD
          CALL SETABIT(IPTSWD,5,1)
          RESET THE WORD COUNTER
          NPFWS=2
          RESET THE VALUE OF IOLDPSW
          IOLDPSW=IPTSWD
          GO TO 200
        ELSE
          NC J TO 1 TRANSITIONS IN BIT STATUS WORD
          RESET THE VALUE OF IOLDPSW
  275  -----

```

CSCG 860
 CSCG 870
 CSCG 871
 CSCG 872
 CSCG 873
 CSCG 874
 CSCG 875
 CSCG 876
 CSCG 877
 CSCG 878
 CSCG 879
 CSCG 880
 CSCG 881
 CSCG 882
 CSCG 883
 CSCG 884
 CSCG 885
 CSCG 886
 CSCG 887
 CSCG 888
 CSCG 889
 CSCG 890
 CSCG 891
 CSCG 892
 CSCG 893
 CSCG 894
 CSCG 895
 CSCG 896
 CSCG 897
 CSCG 898
 CSCG 899
 CSCG 900
 CSCG 901
 CSCG 902
 CSCG 903
 CSCG 904
 CSCG 905
 CSCG 906
 CSCG 907
 CSCG 908
 CSCG 909
 CSCG 910
 CSCG 911
 CSCG 912
 CSCG 913
 CSCG 914
 CSCG 915
 CSCG 916
 CSCG 917
 CSCG 918
 CSCG 919
 CSCG 920
 CSCG 921
 CSCG 922
 CSCG 923

```

200      ICLOBSW=IRITSWO
210      CONTINUE
280      C-----
285      C-----
290      C-----
295      C-----
300      C-----
305      C-----
310      C-----
315      C-----
320      C-----
325      C-----
330      C-----

```

ICLOBSW=IRITSWO
CONTINUE
ENDIF
RESET THE HEADER WORD PITS
CALL HEADFF
CHECK TO SEE IF THE HEADER WORD HAS CHANGED
IF HEADER WORD HAS CHANGED SINCE THE LAST CALL
CP TRANSMIT DATA WORDS FLAG IS UP
IF((ICADTCUT(I).EQ.0).AND.(ICADTR.EC.0))
GO TO 260
THEN
PUT THE DATA WORD BLOCK INTO THE INPUT AR
DC WHILE I IS LESS THAN TWENTY-NINE
DC 28 I=1,29
LUPALK(I+NPPWDS+200)=ICADTCUT(I)
CONTINUE
ENDDC
PUT THE DATA WORD COUNT ONTO THE RT STATUS
RTSTLD=OP(ISTWID,729)
INCREMENT THE WORD COUNTER
NPPWDS=NPPWDS+29
SET TRANSMIT DATA WORDS FLAG TO ZERO
ICADTR=0
SET THE DATA SENT FLAG
IBFUL2(6)=1
GO TO 260
ELSE
NC CHANGE IN THE DATA WORDS SC CONTINUE
CONTINUE
ENDIF
CHECK TO SEE IF INPUT ARRAY IS NON-EMPTY OR
RT STATUS WORD HAS CHANGED
IF NPPWDS IS GREATER THAN ONE OR RT STATUS
HAS CHANGED OR TRANSMIT RT STATUS WORD FLAG IS
IF((NPPWDS.LE.1).AND.(IRITSWD.EQ.ICLOBS))
AND.(IRITP.FO.0)) GO TO 270
THEN
PACK THE NEW WORDS
CALCULATE NPPWDS
NPPWDS=NPPWDS
NPPWDS=(NPPWDS/2.5)+1.0
CALCULATE NRTY- THE BYTE COUNT
NRTY=2*NPPWDS
ZERO OUT ICADTR(86)
ICADTR(86)=0
PUT THE PP WORD COUNT ONTO THE FIRST BYTE
ICADTR(86)=OP(ICADTR(86),NPPWDS)

924 C5CG
925 C5CG
926 C5CG
927 C5CG
928 C5CG
929 C5CG
930 C5CG
931 C5CG
932 C5CG
933 C5CG
934 C5CG
935 C5CG
936 C5CG
937 C5CG
938 C5CG
939 C5CG
940 C5CG
941 C5CG
942 C5CG
943 C5CG
944 C5CG
945 C5CG
946 C5CG
947 C5CG
948 C5CG
949 C5CG
950 C5CG
951 C5CG
952 C5CG
953 C5CG
954 C5CG
955 C5CG
956 C5CG
957 C5CG
958 C5CG
959 C5CG
960 C5CG
961 C5CG
962 C5CG
963 C5CG
964 C5CG
965 C5CG
966 C5CG
967 C5CG
968 C5CG
969 C5CG
970 C5CG
971 C5CG
972 C5CG
973 C5CG
974 C5CG
975 C5CG
976 C5CG
977 C5CG
978 C5CG


```

335 C      *
C      PUT THE BYTE COUNT TO THE SECOND BYTE
C      ICADIER(96)=OF(ICADIER(96),SHIFT(NBYT,
12))
C      PACK THE PT STATUS WORD
C      LUPALX(201)=IPTSTWD
C      CALL THE PACKING ROUTINE
C      CALL PACKPR(6,NPPRDS)
C      ZERO OUT THE DATA WORD COUNT
C      IPTSTWD=AND(IPTSTWD,177701B)
C      ZERO OUT THE Y/F BIT IN THE PT STATUS WORD
C      CALL SETBIT(IPTSTWD,0,0)
C      RESET THE VALUE OF ICDPT
C      ICDPT=IPTSTWD
C      SET TRANSMIT PT STATUS WORD FLAG TO ZERO
C      IFITP=0
C      -----
C      RESET THE DATA AVAILABLE FLAG
C      -----
C      *
C      CALL SETBIT(IGAW(1),IT,AND(
C      COMPL(IGAW(1),1B))
C      -----
C      SET THE STATUS SENT FLAG
C      -----
C      ICFUL(6)=1
C      ELSE
C      NC CHANGES IN PT WORDS SINCE LAST CSCG CA
CONTINUE
ENDIF
GO TO 285
340 C      ELSE
C      DATA OF STATUS SENT FLAG IS STILL UP
C      "OR" THE VALUES OF STATUS AND DATA SENT
C      FLAGS CNIO THE APPROPRIATE BIT IN
C      THE ERROR WORDS
C      IXFRERR(2)=OF(IXFRERR(2),SHIFT(IEFULL(6),IT-1)
C      IXFRERR(3)=OR(IXFRERR(3),SHIFT(IEFULL(6),IT-1)
CONTINUE
ENDIF
345 C      ELSE
C      GO TO 290
C      FLAGS ARE NOT EQUAL SO DON'T PACK DATA
C      SET THE SIXTH BIT IN ERROR WORD 1 TO 1
C      CALL SETBIT(IXFRERR(1),IT-1,1)
CONTINUE
ENDIF
350 C      ELSE
C      BIT IS IN PROGRESS SO RETURN
CONTINUE
ENDIF
355 C      ELSE
C      CSCG IS IN A QUIESCENT STATE SO RETURN
CONTINUE
ENDIF
360 C
365 C
370 C
375 C
380 C
385 C

```

SUBROUTINE CSCG

RETURN
END

CDC 5600 FTM V3.J-P780 OPT=1 78/06/12. 15.13.24.

CSCG 1034
CSCG 1035

PAGE

VARIABLES	SN	TYPE	RELOCATION
340 NPMWS		INTEGER	

1244 NRCVF		INTEGER	AFRAY	SIMULAT				
322 NUMWS		INTEGER						
1227 NMOUTRT		INTEGER						
343 PPMWS		REAL	ARRAY	SIMULAT				

EXTERNALS	TYPE	ARGS	REFERENCES
CSCGNDP	1		53
OTOAINF	0		239
HEADER	0		282
PACKPP	2		327
PERIPHL	0		230
READBIT	3		214
SEIARIT	3		79
SOMCINF	0		235
UOICP	0		220

INTERNAL FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	INTRIN	339
COMPL	NO TYPE	1	INTRIN	349
OR	NO TYPE	2	INTRIN	330
SHIFT	NO TYPE	2	INTRIN	365

STATEMENT LABELS	DEF LINE	REFERENCES
10 10	49	167
16 20	57	49
24 30	63	57
40 40	88	68
46 50	100	88
57 60	116	100
63 70	123	116
63 75	125	108
63 80	127	94
63 85	129	82
63 90	131	62
63 95	133	54
70 105	152	145
75 107	167	158
0 108	168	
76 120	172	41
76 130	178	164
105 182	193	186
105 185	197	178
0 190	220	
123 195	224	216
0 200	276	272
160 210	277	262
0 235	295	292
203 260	308	288
237 270	357	316
240 280	365	253
245 285	369	359
246 288		247

EXTERNALS	TYPE	ARGS	REFERENCES
CSCGNDP	1		53
OTOAINF	0		239
HEADER	0		282
PACKPP	2		327
PERIPHL	0		230
READBIT	3		214
SEIARIT	3		79
SOMCINF	0		235
UOICP	0		220

INTERNAL FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	INTRIN	339
COMPL	NO TYPE	1	INTRIN	349
OR	NO TYPE	2	INTRIN	330
SHIFT	NO TYPE	2	INTRIN	365

STATEMENT LABELS	DEF LINE	REFERENCES
10 10	49	167
16 20	57	49
24 30	63	57
40 40	88	68
46 50	100	88
57 60	116	100
63 70	123	116
63 75	125	108
63 80	127	94
63 85	129	82
63 90	131	62
63 95	133	54
70 105	152	145
75 107	167	158
0 108	168	
76 120	172	41
76 130	178	164
105 182	193	186
105 185	197	178
0 190	220	
123 195	224	216
0 200	276	272
160 210	277	262
0 235	295	292
203 260	308	288
237 270	357	316
240 280	365	253
245 285	369	359
246 288		247

EXTERNALS	TYPE	ARGS	REFERENCES
CSCGNDP	1		53
OTOAINF	0		239
HEADER	0		282
PACKPP	2		327
PERIPHL	0		230
READBIT	3		214
SEIARIT	3		79
SOMCINF	0		235
UOICP	0		220

INTERNAL FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	INTRIN	339
COMPL	NO TYPE	1	INTRIN	349
OR	NO TYPE	2	INTRIN	330
SHIFT	NO TYPE	2	INTRIN	365

STATEMENT LABELS	DEF LINE	REFERENCES
10 10	49	167
16 20	57	49
24 30	63	57
40 40	88	68
46 50	100	88
57 60	116	100
63 70	123	116
63 75	125	108
63 80	127	94
63 85	129	82
63 90	131	62
63 95	133	54
70 105	152	145
75 107	167	158
0 108	168	
76 120	172	41
76 130	178	164
105 182	193	186
105 185	197	178
0 190	220	
123 195	224	216
0 200	276	272
160 210	277	262
0 235	295	292
203 260	308	288
237 270	357	316
240 280	365	253
245 285	369	359
246 288		247

STATEMENT LABELS	DEF LINE	REFERENCES
251 290	376	372
251 295	380	200
251 300	384	203

LOOPS LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
172 235	* I	293 295	48	INSTACK

COMMON BLOCKS	LENGTH	MEMBERS - BIAS NAME(LENGTH)
SIMULAT	1463	0 IRTPUFF(650)
		676 NSOVR (8)
		1028 ICH (8)
		1047 IDATLNK(1)
		1137 LUPBLK (240)
		1399 MASTRF (64)
		0 IB (1)
		3 IOLCPT (1)
		50 IOLCAT (29)
		81 IBFUL1 (13)
		108 IDATTR (1)
		0 NCOUNT(1)

MODULE	LENGTH	MEMBERS
110		650 LWINST (13)
		684 BUOVRM (320)
		1036 IRFCH (8)
		1048 IATOTCG(3)
		1377 IDAW (2)
		1 IFRSP (1)
		4 IDATIN (17)
		79 IBTSMO(1)
		94 ISFUL2 (13)
		109 IRTT (1)
		1 JUNE (1)

DRIVER	LENGTH	MEMBERS
3		643 NACOUTPT(13)
		1004 HELC (24)
		1044 IXFEER(13)
		1051 ICACYPF(86)
		1379 NAV (20)
		2 IRTSYMD(1)
		21 ICATOUT(29)
		80 YOLERSW(1)
		177 ICSTATE(1)
		2 YUNE (1)

STATISTICS

PROGRAM LENGTH	3468	230
COMMON LENGTH	30508	1576

RESET VALUE OF IR
IF=ISAVE
GO TO 200

ELSE

DATA FLOW IS CSCG TO AVK

RESET DATA SENT FLAG

190 IGFUL2(6)=0

200 CONTINUE

ENDIF

RETURN

END

CSCG 1041
CSCG 1042
CSCG 1043
CSCG 1044
CSCG 1045
CSCG 1046
CSCG 1047
CSCG 1048
CSCG 1049
CSCG 1050
CSCG 1051
CSCG 1052
CSCG 1053

SUBROUTINE CSCGNOP

SYMB--IC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES	
2 CSCGNOP	11	67	
VARIABLES	SN	TYPE	RELOCATION
1254 BUOYPM	1254	INTEGER	ARRAY
1754 HELO	1754	REAL	ARRAY
2030 IATOTOG	2030	INTEGER	ARRAY
C IR	C	INTEGER	MODULE
121 IBFUL1	121	INTEGER	ARRAY
136 IBFUL2	136	INTEGER	ARRAY
117 IBITSWD	117	INTEGER	MODULE
2004 ICH	2004	INTEGER	MODULE
4 IDATIN	4	INTEGER	MODULE
2027 IDATLNK	2027	INTEGER	MODULE
25 IDATCUT	25	INTEGER	MODULE
154 IDATTR	154	INTEGER	MODULE
2541 IDAM	2541	INTEGER	MODULE
1 IERRCR	1	INTEGER	MODULE
2033 IOADTTP	2033	INTEGER	MODULE
62 IOLDAT	62	INTEGER	MODULE
120 IOLDSM	120	INTEGER	MODULE
3 IOLDRT	3	INTEGER	MODULE
153 IOSTATE	153	INTEGER	MODULE
2014 IRFCH	2014	INTEGER	MODULE
9 IRTBUFF	9	INTEGER	MODULE
2 IRTSTWD	2	INTEGER	MODULE
155 IRTTR	155	INTEGER	MODULE
31 ISAVE	31	INTEGER	MODULE
2024 IXFRERR	2024	INTEGER	MODULE
0 K	0	INTEGER	F.P.
30 L	30	INTEGER	F.P.
2161 LUPBLK	2161	INTEGER	MODULE
1212 LWINT	1212	INTEGER	MODULE
2567 MASTRF	2567	INTEGER	MODULE
2543 NAV	2543	REAL	MODULE
1244 NRCVR	1244	INTEGER	MODULE
27 NUMMDS	27	INTEGER	MODULE
1227 NWOUTRT	1227	INTEGER	MODULE

STATEMENT LABELS	DEF LINE	REFERENCES
16 30	44	37
0 50	54	34
24 190	64	29
25 200	65	58

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
12	50	L	34 54	108	CPT

COMMON BLOCKS	LENGTH	MEMBERS	- BIAS NAME(LENGTH)
SIMULAT	1463	0	0 IRTBUFF(650)
		676	NRCVR (8)
		650	LWINT (13)
		684	GUOYPM (320)
		663	NWOUTRT(13)
		1004	HELC (124)

SUBROUTINE CSCGNOP

COC 6600 FIN V3.0-PR00 OPT=1 7P/06/12. 15.13.24. PAGE 4

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

1028 ICH (4)
1047 IDATLNK(1)
1137 LUPPLK (240)
1399 MASTRF (64)
0 IB (1)
3 IOLORT (1)
50 IOLDAT (29)
81 IREFUL1 (13)
108 IDATTP (1)

MODULE 110

1036 IPFCH (8)
1048 IATOTOG(3)
1377 IDAM (2)
1 IERROR (1)
4 IDATIN (17)
79 IPIISKO(1)
94 IBFUL2 (13)
109 IDTTP (1)
2 IRISTAC(11)
21 ICATOLI(29)
80 ICLOPSM(11)
107 ICSTATE(11)
1044 IXFRFFS(3)
1051 ICACVFF(16)
1379 NAV (23)

STATISTICS

PROGRAM LENGTH 328 26
COMMON LENGTH 30458 1573

5
10
15
20

```
C-----
C  SUBROUTINE SETABIT(JWORD,NBIT,NUM)
C
C  ABSTRACT
C    SETABIT SETS A SPECIFIED BIT TO 0 OR 1 IN A GIVEN WORD
C    CALLING PARAMETERS- 1. JWORD- WORD IN WHICH BIT IS TO BE SET
C    2. NBIT- BIT NUMBER OF BIT TO BE RESET
C    3. NUM- THE RESET VALUE OF THE BIT
C
C  CODING HISTORY
C    1. PROGRAMMED J. MANGES 12/19/77
C    END OF ABSTRACT
C
C  SUBROUTINE SETABIT(JWORD,NBIT,NUM)
C    DIMENSION NMASK(16)
C    DATA NMASK/1777778,1777778,1777778,1777778,1777778,1777778,
C    *1776778,1775778,1773778,1767778,1757778,1737778,1677778,1577778,
C    *1377778,0777778/
C    JWORD=JWORD.AND.NMASK(NBIT+1).CP.SHIFT(NUM,NBIT)
C    RETURN
C    END
```

1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1110
1111
1112
1113
1114
1115

SYMBOLIC REFERENCE MAP

ENTRY POINTS 2 SETABIT 15 REFERENCES 21

VARIABLES	SN	TYPE	RELOCATION
0 JWORD		INTEGER	F.P.
0 NBIT		INTEGER	F.P.
11 NMASK		INTEGER	ARRAY
0 NUM		INTEGER	F.P.

REFS	20	DEFINED	15	20
REFS	2*20	DEFINED	15	
REFS	16	20	DEFINED	17
REFS	20	DEFINED	15	

INLINE FUNCTIONS TYPE ARGS 2 INTRIN 20

STATISTICS
PROGRAM LENGTH 318 25

00000000000000000000000000000000

SUBROUTINE READBIT

PAGE

7*106/12. 15.13.24.

CDC 6600 PYN V3.0-P380 OPT=1

2

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 READBIT 17 20

VARIABLES SN TYPE RELOCATION
12 J INTEGER
0 JWORD INTEGER F.P.
0 NBIT INTEGER F.P.
0 NEWORD INTEGER F.P.

REFS 19
REFS 19
REFS 18
DEFINED 17
DEFINED 19
DEFINED 19

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES
AND NO TYPE 2 INTRIN 19
SHIFT NO TYPE 2 INTRIN 18

STATISTICS
PROGRAM LENGTH 138 11

ENTRY POINTS	DEF LINE	REFERENCES
2 PACKPP	12	37

VARIABLES	SN	TYPE	RELOCATION	
QUOVRM	1254	INTEGER	ARRAY	16
HELO	1754	REAL	ARRAY	16
T	56	INTEGER		DEFINED
IALL	55	INTEGER		DEFINED
IATOTOG	2030	INTEGER	ARRAY	16
IB	0	INTEGER	SIMULAT	16
IBFUL1	121	INTEGER	MODULE	21
IBFUL2	136	INTEGER	MODULE	21
IBITSWD	117	INTEGER	MODULE	21
ICH	2084	INTEGER	MODULE	21
IDATIN	4	INTEGER	ARRAY	16
IDATLNK	2027	INTEGER	MODULE	21
IDATOUT	25	INTEGER	MODULE	21
IDATTP	154	INTEGER	MODULE	21
IDAW	2541	INTEGER	ARRAY	16
IEPRCR	1	INTEGER	MODULE	21
IOADTPP	2033	INTEGER	MODULE	16
IOLDAT	62	INTEGER	MODULE	21
IOLBSW	120	INTEGER	MODULE	21
IOLDRT	3	INTEGER	MODULE	21
IOSTATE	153	INTEGER	MODULE	21
ITFCH	2014	INTEGER	ARRAY	16
ITRBUFF	2	INTEGER	ARRAY	16
ITRSTWD	0	INTEGER	MODULE	21
ITRTR	155	INTEGER	MODULE	21
IXFRERR	2024	INTEGER	MODULE	16
LUPBLK	2161	INTEGER	MODULE	16
LWINPT	1212	INTEGER	MODULE	16
MASTRF	2567	INTEGER	MODULE	16
NAV	2543	REAL	MODULE	16
NPPWDS	0	INTEGER	F.P.	16
NRCVR	1244	INTEGER	ARRAY	32
NRT	0	INTEGER	MODULE	16
NWCUTRT	1227	INTEGER	F.P.	16
			DEFINED	16

FILE NAMES	MODE
TAPE6	FMT

EXTERNALS	TYPE	ARGS	REFERENCES
BITs		2	34

STATEMENT LABELS	CEF LINE	REFERENCES
34 5 FMT	26	25
42 10 FMT	27	28
47 20 FMT	30	29
Q 30	35	32

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES EXT OFFS
22 30 * I 33 35 68

COMMON BLOCKS LENGTH 1463
SIMULAT

MEMBERS - BIAS NAME(LENGTH)
0 IOTRUFF(650)
576 NCCVR (8)
1028 ICH (8)
1047 IDATLAK(1)
1137 LUPPLK (240)
1399 MASTRF (64)
0 IB (1)
3 IOLORT (1)
50 IOLDAT (29)
91 IBFUL1 (13)
108 IDATTP (1)
650 LWINOT (13)
684 BUAYOW (320)
1036 IPFCH (8)
1048 IATOTCG(2)
1377 IDAN (2)
1 YERDOP (1)
4 IDATIN (17)
79 IBITSWO(1)
94 IBFUL2 (13)
109 IPITR (1)
583 NOUTST (13)
1004 HFLC (24)
1044 IXFFRPP (13)
1051 ICADTFP (16)
1379 NAV (20)
2 IRYSIKC(1)
21 TCATCUT (29)
80 ICID9SW(1)
107 ICSTATE(1)

MODULE 110

STATISTICS

PROGRAM LENGTH 579 47
COMMON LENGTH 30458 1573

SUBROUTINE SOACINE

75

C

100

C

200

C

EO

CONTINUE

ENDIF

CONTINUE

ENDDO

CONTINUE

ENDDO

RETURN

END

CDC 6600 FTA V3.0-PR0 OPT=1 7/10/12. 15.17.24.

PAGE

2

CSCG 1210

CSCG 1211

CSCG 1212

CSCG 1213

CSCG 1214

CSCG 1215

CSCG 1216

CSCG 1217

SUBROUTINE CONCINE

COMMON BLOCKS LENGTH
SIMULAT 1463

MEMBERS - RIAS NAME(LENGTH)

0 IXPBUFF(650)
676 NSCUR (8)
1028 ICH (8)
1047 IDATLAK(1)
1137 LUGBLK (240)
1399 MASTRE (64)
0 IE (1)
3 IGLCPT (1)
50 IOLRAI (22)
81 IBFUL1 (13)
108 IDATIR (1)

MODULE 110

STATISTICS

PROGRAM LENGTH 1008 64
COMMON LENGTH 30458 1573

650 LWINPT (12)
684 BUOVPM (320)
1036 IEPCH (8)
1043 TATOTOG(13)
1377 IDAW (2)
1 IFRDOR (1)
4 IDATIN (17)
79 IGLISWD(1)
94 IBFUL2 (13)
109 IRIR (1)
653 NACUTPT(13)
1004 WFLC (24)
1044 IXFRERR(13)
1051 ICACITPF(18)
1379 NAV (20)
2 IFTSYMC(1)
21 IDATOUT(29)
90 ICLPRSW(1)
107 IQSIATE(1)


```

C-----
C SUBROUTINE HEADER
C
C
C ABSTRACT
C THIS SUBROUTINE SETS BITS IN THE OUTGOING HEADER DATA WORD TO
C INDICATE CHANGES IN DATA WORDS SINCE THE LAST CSCG CALL.
C
C CODING HISTORY
C 1. PROGRAMMED J. MANGLES CSC MARCH 1978
C-----
C SUBROUTINE HEADER
C
C REAL NAV
C INTEGER BUOYRM
C COMMON/SIMULAT/IRTBUFF(50,13),LWINRT(13),NWOUTPT(13),NECVR(8),
C *BUOVRM(10,32),HELO(24),ICH(8),JPECH(8),IVFSEP(3),IDATLNK,
C *IATOIOG(3),IDATIPP(8E),LUPLK(240),IDANK(2),NAV(20),MASIRP(32,2)
C
C
C COMMON/MODULE/IP,IERROR,IRISWNO,IOLOPT,IDATING(17),IDATCUT(29),
C *IOLDAT(29),IBITSWO,IOLCSH,IFULL(13),INFUL2(13),IGSTATE,IDAFFC,
C *IRTR
C
C
C CHECK TO SEE WHICH OUTGOING DATA WORDS HAVE CHANGED SINCE THE LAST
C CSCG CALL
C-----
C DO WHILE I IS BETWEEN TWO AND THIRTEEN
C   DO 50 I=2,13
C     IF IDATOUT(I) HAS CHANGED
C       IF IDATOUT(I).EQ.IOLCAT(I)) GO TO 30
C     THEN
C       SET THE APPROPRIATE FEADEF WORD BIT TO INDICATE A CHANGE
C       CALL SETBIT(IDATOUT(1),I-2,1)
C       GO TO 40
C     ELSE
C       SET THE APPROPRIATE HEADER WORD BIT TO INDICATE NO CHANG
C       CALL SETBIT(IDATOUT(1),I-2,0)
C       CONTINUE
C     ENDIF
C   50 CONTINUE
C ENDDO
C DO WHILE I IS LESS THAN 2
C   DO 70 I=1,2
C     IF IDATOUT(I+13) OR IDATOUT(I+14) HAS CHANGED
C       IF IDATOUT(I+13).EQ.IDLAT(I+13),AND.(IDATOUT(I+14).EQ.
C       ICDLAT(I+14))) GO TO 55
C     * THEN
C       SET THE HEADER WORD BIT TO INDICATE A CHANGE
C       CALL SETBIT(IDATOUT(1),I+11,1)
C       GO TO 60
C     ELSE
C       SET THE HEADER WORD BIT TO INDICATE NO CHANGE
C       CALL SETBIT(IDATOUT(1),I+11,0)
C   55 CONTINUE
C   60 CONTINUE

```

```

C      ENDIF
C      70 CONTINUE
C      ENDDO
C      CHECK FOR CHANGES IN THE REMAINING DATA WORDS NOT COVERED BY
C      THE HEADER WORD
C      DO WHILE L IS LESS THAN TWENTY-NINE
C      DO 100 L=17,29
C      IF IOATOUT(L) HAS CHANGED
C      IF (IOATOUT(L).EQ.IOLAT(L)) GO TO 75
C      THEN
C      SET FLAG TO TRANSMIT THE DATA WORDS
C      IOATFR=1
C      GO TO 75
C      ELSE
C      CONTINUE TO LOOK FOR DATA WORD CHANGES
C      75 CONTINUE
C      ENDF
C      100 CONTINUE
C      ENDDO
C-----
C      RESET THE VALUES OF THE OLD DATA WORDS
C-----
C      RESET THE VALUE OF IOLAT(I)
C      DO WHILE J IS LESS THAN 29
C      DO 200 I=2,29
C      IOLAT(I)=IOATOUT(I)
C      200 CONTINUE
C      ENDDO
C      RETURN
C      END

```

SYMBOLIC REFERENCE MAP

[illegible]

STATEMENT LABELS	DEF LINE	REFERENCES
13 30	38	31
17 40	39	35
0 50	41	29
36 55	54	46
42 60	55	51
0 70	57	44
52 75	71	64
0 100	73	62
0 200	82	80

SUBROUTINE HEADER

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES	EXT PECS
3	50	* I	29 41	179		EXT PECS
23	70	* I	44 57	228		EXT PECS
47	100	L	62 73	49	INSTACK	
55	200	I	90 82	28	INSTACK	

COMMON BLOCKS	LENGTH	MEMBERS - BYAS NAME(LENGTH)
SIMULAT	1463	0 TOTLUFF(1550)
		676 MOCVR (8)
		1028 YCH (8)
		1047 IDATLAK(1)
		1137 LUPRLK (240)
		1399 MASTRF (64)
MODULE	110	0 ID (1)
		3 YCLDRY (1)
		50 YOLCAT (29)
		31 YBFUL1 (13)
		108 IDATTR (1)
		650 LATNEY (17)
		684 EUCYRW (720)
		1036 IPECH (8)
		1042 IATOTCG(3)
		1377 IDAW (12)
		1 IERPCR (1)
		4 IDATIN (17)
		79 INTISWD(1)
		94 IRFUL2 (13)
		109 IRITR (1)
		2 IRISWD(1)
		21 ICATCUT(29)
		80 YCLCRSW(1)
		107 ICSTATE(1)
		683 NADUTY(17)
		1004 HELC (24)
		1044 IXPERRP(8)
		1051 ICATOFF(56)
		1379 NAV (20)

STATISTICS	PROGRAM LENGTH	748
COMMON LENGTH	30458	
	1573	60

[illegible]

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
1 PERIPHERAL 12 86

VARIABLES SN TYPE RELOCATION

1254 BUOYRN INTEGER ARRAY SIMULAT

76 C REAL REAL

113 OIST REAL REAL

1754 HELO REAL REAL

2030 IATOTOG INTEGER INTEGER

0 IB INTEGER INTEGER

121 IFFUL1 INTEGER INTEGER

136 IFFUL2 INTEGER INTEGER

117 IRTSMD INTEGER INTEGER

2004 ICH INTEGER INTEGER

4 IODATIN INTEGER INTEGER

2027 IODATLNK INTEGER INTEGER

25 IODATOUT INTEGER INTEGER

154 IODATYR INTEGER INTEGER

2541 IODAW INTEGER INTEGER

1 IERROR INTEGER INTEGER

2033 IODATPP INTEGER INTEGER

62 IODLAT INTEGER INTEGER

120 IODBSM INTEGER INTEGER

3 IODLRT INTEGER INTEGER

153 IOSTATE INTEGER INTEGER

2014 IRECH INTEGER INTEGER

0 IRTBUFF INTEGER INTEGER

2 IRTSMD INTEGER INTEGER

155 IRTYR INTEGER INTEGER

103 ISIGSTR INTEGER INTEGER

2024 IXFRERR INTEGER INTEGER

101 K INTEGER INTEGER

2161 LUPBLK INTEGER INTEGER

1212 LWINRT INTEGER INTEGER

2587 MASTRF INTEGER INTEGER

102 N INTEGER INTEGER

2543 NAV REAL REAL

1244 MRCVR INTEGER INTEGER

1227 NWOUTRT INTEGER INTEGER

EXTERNALS TYPE ARGS REFERENCES

SETABIT 3 41

SQRT REAL 37

1 LIBRARY 51

DEF LINE REFERENCES

ARGS

2 INTRIN

2 INTPIN

76 75

76 75

76 75

INLINE FUNCTIONS

OR

SHIFT

76 75

76 75

76 75

REFS

REFS

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16 2*51

2*57 28

13 2*57

17 3*51

17 3*51

22 3*51

22 3*51

22 3*51

22 3*51

22 3*51

22 3*51

22 3*51

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78

STATEMENT LEVELS

DEF LINE	REFERENCES
41	34
42	38
45	57
66	55
70	49

61

LOOPS LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
13 200	* K	49 70	409	EXT REFS NOT INNER
36 100	* N	55 66	118	EXT REFS NOT INNER

COMMON BLOCKS	LENGTH	MEMBERS	BIAS NAME(LENGTH)
SIMULAT	1463	0	IRTSWFF(650)

650 LWINDT (13)	653 NKOUTFF(13)
684 RUOVSK (320)	1004 HELC (24)
1036 IPECH (8)	1044 IXFEFF(3)
1048 IATOTOG(3)	1051 ICADIFF(96)
1377 IDAW (2)	1379 NAV (20)
1 IERDOP (1)	2 IRISTWD(1)
4 IRTIN (17)	21 ICALCUT(29)
79 IRITSWD(1)	80 ICLCASM(1)
94 IBFUL2 (13)	107 ICSTATE(1)
109 IRTTP (1)	

MODULE 110

STATISTICS

PROGRAM LENGTH	1239
COMMON LENGTH	3045R
	1973


```

C-----
C SUBROUTINE UNICP
C
C ABSTRACT
C THIS SUBROUTINE DETECTS CHANGES IN SWITCH SETTINGS FOR UHF
C MODE AND CHANNEL SELECTION AND RESETS THE APPROPRIATE BITS
C IN THE OUT-GOING DATA WORDS.
C
C CODING HISTORY
C 1. PROGRAMMER- J. MANGES CSC MARCH 1973
C
C END OF ABSTRACT
C-----
C SUBROUTINE UNICP
C
C REAL NAV
C INTEGER BUOVEN
C COMMON/SIMULAT/IRTRBUF(50,13),LWINPT(13),NWOUTPT(13),NRCONP(8),
C *BUVRW(15,32),HFELO(24),TCH(8),IRECH(6),IXFERPR(3),IDATLNK,
C *IATOTOG(3),IOADTPP(86),LUPLK(24),IDAN(2),NAV(20),MASIRF(32,2)
C
C
C COMMON/MODULEVTR,ERROR,IOTSIVC,IOLDRT,IDATIN(17),IDATOUT(29),
C *IOLDAI(29),IBITSWD,IOLCSW,IPFUL(13),ISFUL2(13),IGSTATE,IDAIPP,
C *IRTR
C
C UPDATE UHF-1 MODE SELECTION (OIPI OR AOF)
C
C CHECK MODE SELECT SWITCH SETTING
C CALL READPT(IATOTOG(1),0,1)
C RESET DATA WORD BITS IN STATUS WORD NO. 20
C CALL SETATT(IDATOUT(21),4,1)
C CALL SETAPT(IDATOUT(21),15,(CCMPL(I).AND.1B))
C
C UPDATE UHF-1 CHANNEL SELECTION
C
C BLANK OUT THE CHANNEL SELECTION FIELD IN IDATOUT(13)
C IOATCUT(13)=AND(IDATOUT(13),177430R)
C CHECK UHF-1 CHANNEL SELECT UNITS SWITCH SETTING AND COPY IT
C INTO THE DATA WORD
C IAS=SHIFT(AND(IATOTOG(3),1700R),-6)
C IDATCUT(13)=OR(IDATCUT(13),IA)
C CHECK THE UHF-1 CHANNEL SELECT TENS SWITCH SETTING AND COPY IT
C INTO THE DATA WORD
C I1=AND(IATOTOG(3),2030R)
C I2=AND(IATOTOG(3),4030R)
C IDATCUT(13)=OR(IDATCUT(13),SHIFT(I1,-5))
C IDATCUT(13)=OR(IDATCUT(13),SHIFT(I2,-7))
C RETURN
C END

```

ENTRY POINTS	DEF LINE	REFERENCES	DEF LINE	REFERENCES
1 UDICP	14	50		
VARIABLES	SN	TYPE	RELOCATION	
1254 BUOYRM		INTEGER	ARRAY SIMULAT	17
1754 HELD		REAL	ARRAY SIMULAT	18
44 I		INTEGER	REFS	34
45 IA		INTEGER	REFS	42
2030 IATOTOG		INTEGER	REFS	42
0 IB		INTEGER	REFS	46
121 IBFUL1		INTEGER	REFS	47
136 IBFUL2		INTEGER	REFS	
117 IBTSWD		INTEGER	REFS	
2004 ICH		INTEGER	REFS	
4 IDATIN		INTEGER	REFS	
2027 IDATLNK		INTEGER	REFS	
25 IDATCUT		INTEGER	REFS	
154 IDATTR		INTEGER	REFS	
2541 IDAW		INTEGER	REFS	
1 IERROR		INTEGER	REFS	
2033 IDOTPP		INTEGER	REFS	
62 IOLDAT		INTEGER	REFS	
120 IOLDSW		INTEGER	REFS	
3 IOLDRT		INTEGER	REFS	
153 IOSTATE		INTEGER	REFS	
2014 IRFCH		INTEGER	REFS	
0 IRISBUF		INTEGER	REFS	
2 IRISTWD		INTEGER	REFS	
155 IRTTR		INTEGER	REFS	
2024 IXPREPR		INTEGER	REFS	
46 I1		INTEGER	REFS	
47 I2		INTEGER	REFS	
2161 LUPBLK		INTEGER	REFS	
1212 LWINRT		INTEGER	REFS	
2567 MASTRF		INTEGER	REFS	
2543 NAV		REAL	REFS	
1244 NCQVR		INTEGER	REFS	
1227 NMOUTRT		INTEGER	REFS	
EXTERNALS	TYPE	ARGS	REFERENCES	
PEADBIT		3	31	
SEYABIT		3	33	
INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	42	46
COMPL	NO TYPE	1	44	47
OR	NO TYPE	2	43	49
SHIFT	NO TYPE	2	42	49

SUBROUTINE UNICP

COMMON BLOCKS LENGTH 1463
SIMULAT

MODULE 110

STATISTICS

PROGRAM LENGTH 508
COMMON LENGTH 30458

MEMBERS - SIA5 NAME(LENGTH)

0 IRTBUFF(650)
676 NDCVR (9)
1028 ICH (8)
1047 IMATLAK(1)
1137 LUPBLK (240)
1399 MASTRE (64)
0 I9 (1)
3 ICLCR1 (1)
50 IOLCAT (20)
81 IAFUL1 (13)
106 IOATYR (1)

650 LWIRY (13)
684 BUCVRN (120)
1036 ISFCH (8)
1048 IATOTOG(13)
1377 ITAW (2)
1 IREFOP (1)
7 IAYIN (17)
79 ITITSWO(1)
94 IPFUL2 (13)
109 IATYR (1)

683 NACUTPT(13)
1004 HELC (24)
1044 IREFRE(13)
1051 ICANTFF(86)
1379 NAV (120)
2 IRTSTAC(1)
21 ICATOUT(129)
80 ICLOBSW(1)
107 ICSTATE(1)

[illegible]


```

1456 IF BUOY IS CLASS MAKE SUB VHF TRANS. IS ON
1455 IF((BUOYRW(1,1),LF,2),A,(MASTER(I,1),EQ,0))
1457 GO TO 35
1458 THEN
1459 K=BUOYRW(10,1)+.5
1460 IF SWITCH SETTING COINCIDES WITH BUOYRW N
1461 IF(IJTUNE,NE,K) GO TO 30
1462 THEN
1463 SET THE CHUTE NUMBER OF THE BUOY PPF
1464 TUNED TO THE UHF RADIO
1465 ITUNE=I
1466 CALCULATE THE OTPI BEARING
1467 NAV(15)=ATAN2(BUOYRW(3,1),TUNE)-
1468 HELO(14),BUOYRW(2,1),TUNE)-HELO(13))
1469 GO TO 100
1470 ELSE
1471 CONTINUE TO LOOP THRU THE BUOYS
1472 CONTINUE
1473 ENDIF
1474
1475 ELSE
1476 BUOY IS CLASS-TYPE AND VHF TRANS. NOT ON
1477 CONTINUE
1478 ENCIF
1479 ELSE
1480 OVER 20 SEC SINCE LAST PING AND NO NEW PING YF
1481 CONTINUE
1482 ENDF
1483
1484 ELSE
1485 BUOY NOT STILL ACTIVE OR NOT IN THE WATER
1486 CONTINUE
1487 ENDF
1488
1489 CONTINUE
1490 ENDOO
1491 LOOP IS EXHAUSTED-NO BUOY TUNED TO UHF
1492 ELSE
1493 UHF NOT IN OTPI MCNE SO NO OTPI BEARING DETERMINATION
1494 CONTINUE
1495 ENDF
1496 RETURN
1497 END

```

SYMBOLIC REFERENCE MAP									
ENTRY POINTS	DEF LINE	REFERENCES							
1	12	94							
VARIABLES	SN	TYPE	RELOCATION						
1254 BUOYRN		INTEGER	ARRAY	SIMULAT					
1754 HELD		REAL	ARRAY	SIMULAT					
101 I		INTEGER							
2030 IATOTOG		INTEGER	ARRAY	SIMULAT					
0 IB		INTEGER		MODULE					
121 IBFUL1		INTEGER	ARRAY	MODULE					
136 IBFUL2		INTEGER	ARRAY	MODULE					
117 IBTSHD		INTEGER	MODULE	MODULE					
2004 ICH		INTEGER	ARRAY	SIMULAT					
4 IOATIN		INTEGER	ARRAY	MODULE					
2027 IOATLNK		INTEGER	ARRAY	SIMULAT					
25 IOATCUT		INTEGER	MODULE	MODULE					
154 IOATIR		INTEGER	ARRAY	MODULE					
2541 IOAW		INTEGER	ARRAY	SIMULAT					
1 IERROR		INTEGER	MODULE	MODULE					
2333 IOADYPP		INTEGER	ARRAY	SIMULAT					
62 IOLODAY		INTEGER	ARRAY	MODULE					
120 IOLOBSW		INTEGER	MODULE	MODULE					
3 IOLODT		INTEGER	MODULE	MODULE					
153 IOSTATE		INTEGER	MODULE	MODULE					
2014 IREFCH		INTEGER	ARRAY	SIMULAT					
0 IRTBUFF		INTEGER	ARRAY	SIMULAT					
2 IRTSTWD		INTEGER	MODULE	MODULE					
155 IRTTR		INTEGER	MODULE	MODULE					
2 ITUNE		INTEGER	DRIVER	DRIVER					
2024 IXPERRR		INTEGER	ARRAY	SIMULAT					
76 I1		INTEGER							
77 I2		INTEGER							
100 I3		INTEGER							
1 JUNE		INTEGER							
102 K		INTEGER							
2161 LUPBLK		INTEGER	ARRAY	SIMULAT					
1212 LWINT		INTEGER	ARRAY	SIMULAT					
2567 MASTRF		INTEGER	ARRAY	SIMULAT					
2543 NAV		REAL	ARRAY	SIMULAT					
0 NCCOUNT		INTEGER	DRIVER	DRIVER					
1244 NRCVP		INTEGER	ARRAY	SIMULAT					
1227 NXCUTRY		INTEGER	ARRAY	SIMULAT					

STATEMENT LABELS

DEF LINE	REFERENCES
73	62
77	57
81	53
85	50
87	4A
92	31

70

LOOPS LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES	EXT	REFS	EXITS
21 50	I	48 87	519				

COMMON BLOCKS LENGTH 1463

MEMBERS	RIAS NAME(LENGTH)
0	IRTSUFF(650)
676	NDVR (8)
1028	ICH (8)
1047	IOATLANK(1)
1137	LUPOLK (240)
1399	MASTEF (64)
0	IR (1)
3	IOLST (1)
50	IOLCAT (29)
81	IRFUL1 (13)
103	IOATYR (1)
0	NCOUNTp(1)

MODULE 110

DRIVER 3

STATISTICS

PROGRAM LENGTH	1038	67
COMMON LENGTH	30908	1576

663	NACTIP(13)
1004	HELC (24)
1044	IVFRER(13)
1051	ICACTIP(86)
1379	NAV (20)
2	IPSTIR(1)
21	YCATOUT(29)
80	TCLTRSW(1)
107	ICSTATE(1)
2	YTUNE (1)

650	LWINGT (13)
684	BUOYPN (320)
1036	IRFCH (8)
1043	IATOTCG(3)
1377	IDAW (2)
1	IEROP (1)
4	IDATIN (17)
79	IBITSMD(1)
94	IRFUL2 (13)
109	IRYR (1)
1	JTUNE (1)

****	*COMDECK, SIMULAT	1
****	*COMDECK DRIVER	1
****	*COMDECK MODULE	1
****	*DECK CLCS	1
****	*CALL, SIMULAT	12
****	*CALL, MODULE	13
****	*CALL, DRIVER	14
****	*CALL, SIMULAT	45
****	*CALL, MODULE	46
****	*CALL, SIMULAT	470
****	*CALL, MODULE	471
****	*CALL, SIMULAT	484
****	*CALL, MODULE	495
****	*CALL, DRIVER	496
****	*CALL, SIMULAT	669
****	*CALL, MODULE	670
****	*CALL, DRIVER	671
****	*CALL, SIMULAT	1071
****	*CALL, MODULE	1072
****	*CALL, SIMULAT	1171
****	*CALL, MODULE	1172
****	*CALL, SIMULAT	1251
****	*CALL, MODULE	1252
****	*CALL, SIMULAT	1424
****	*CALL, MODULE	1425
****	*CALL, SIMULAT	1477
****	*CALL, MODULE	1478
****	*CALL, SIMULAT	1518
****	*CALL, MODULE	1519
****	*CALL, SIMULAT	1550
****	*CALL, MODULE	1551
****	*CALL, SIMULAT	1608
****	*CALL, MODULE	1609

CORRECTION IDENTIS ARE LISTED IN CHRONOLOGICAL ORDER OF INSEPTION

SIMULAT DRIVER MODULE OLCS

DECKS ARE LISTED IN THE ORDER OF THEIR OCCURENCE ON A NEW PROGRAM LIBRARY IF ONE IS CREATED BY THIS UPDATE

YANK\$\$\$ SIMULAT DRIVER MODULE CLCS

CREATION RUN

COMMON DECKS ENCOUNTERED

SIMULATOR DRIVER

MODULE

UPDATE 1.2-77145.

7/106/12. 15.13.67.

PAGE

2

DECKS WRITTEN TO COMPILE FILE

OLCS

THIS UPDATE REQUIRED 337009 WORDS OF CORE.

MULTIFUNCTION CONTROL SET MODULE

(MFCS)


```

115  WRITE(3,3013) ((EXP(I,J),I=1,16),J=1,2)
      CALL EXPAND(IXFRERR,3,16,EXP)
      WRITE(3,3015) (J,(EXP(I,J),I=1,16),J=1,3)
      CALL EXPAND(OUT,16,16,EXP)
      WRITE(3,3004) ((EXP(I,J),I=1,16),J=1,16)
      CALL EXPAND(MFCBLK(1),5,17,EXP)
      WRITE(3,3011) ((EXP(I,J),I=1,17),J=1,5)
      CALL EXPAND(MFCBLK(1,2),5,17,EXP)
      WRITE(3,3014) ((EXP(I,J),I=1,17),J=1,5)
      WRITE(3,3005) ((INFCPP(I,J),I=1,3),J=1,2)
      WDCNT=2
      CALL READZ(2,INBUFF,WDCNT,PCODE,DUMMY)
      IF(INBUFF(1).EQ.4)HALTTOC TO 2000
      INBUFF(1)=0
      GO TO 9
120  2000 CALL CLOSEZ(2,0,1,IS)
      STOP1
125  99999 STOP2
      2001 FORMAT(A3,I2,06,6A10)
      2002 FORMAT(06,6A10)
      2003 FORMAT(A4)
      3001 FORMAT(1XA3,3XI2,3X06,3X6A10)
      3002 FORMAT(* MFC*, FLAG*, FLAG AND OUTPUT BUFFERS*)
      3003 FORMAT(/** STATUS SENT FLAG = *I1T61*STATUS SENT FLAG = *I1
      * /** DATA SENT FLAG = *I1T61*DATA SENT FLAG = *I1
      * /** QUIESCENT STATE = *L1T61*QUIESCENT STATE = *L1
      * /** SELF-TEST STATE = *L1T61*SELF-TEST STATE = *L1)
      3004 FORMAT(/** OUT DISCRETES = *3(4X16I2)/I18,3(4X16I2)
      /T22,16I2)
      3005 FORMAT(/** BUFFERS TO THE AOP : ATO = * 3X05,2(3X020)
      / T23 *SO = * 3X05,2(3X020))
130  3006 FORMAT(1H1)
      3007 FORMAT(1H1//I9,14(1H*)/I9** INPUT DATA **/I9,14(1H*)//)
      3008 FORMAT(1X06,3X6A10)
      3009 FORMAT(/I19*ATO KEYSET*I78*SC KEYSET*
      * //** RT STATUS (NEW) = *16I2,T61*RT STATUS (NEW) = *16I2
      * /T12 *(OLD) = *16I2,T71 *(OLD) = *16I2)
      3010 FORMAT(
      * * BIT STATUS (NEW) = *16I2,T61*BIT STATUS (NEW) = *16I2
      * /I13 *(OLD) = *16I2,T72 *(OLD) = *16I2)
      3011 FORMAT(/** ATO UNPACKED OUTPUT BUFFER :*2(3(4X17I2))/2(4X17I2))
      3012 FORMAT(/I9,16(1H*)/I9** MFC* RESULTS **/I9,16(1H*)//)
      3013 FORMAT(*00P DATA AVAIL FLAG = *16I2/
      * * OP DATA AVAIL FLAG = *16I2)
      3014 FORMAT(/** SO UNPACKED OUTPUT BUFFER :*2(3(4X17I2))/2(4X17I2))
      3015 FORMAT(/3(* IXFRERR(*I1*) = *16I2//)
      END

```

MFCSDRV 101

MFCSDRV 102

MFCSDRV 103

MFCSDRV 104

MFCSDRV 105

MFCSDRV 106

MFCSDRV 107

MFCSDRV 108

MFCSDRV 109

MFCSDRV 110

MFCSDRV 111

MFCSDRV 112

MFCSDRV 113

MFCSDRV 114

MFCSDRV 115

MFCSDRV 116

MFCSDRV 117

MFCSDRV 118

MFCSDRV 119

MFCSDRV 120

MFCSDRV 121

MFCSDRV 122

MFCSDRV 123

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MFCSDRV 135

MFCSDRV 136

MFCSDRV 137

MFCSDRV 138

MFCSDRV 139

MFCSDRV 140

MFCSDRV 141

MFCSDRV 142

MFCSDRV 143

MFCSDRV 144

MFCSDRV 145

MFCSDRV 146

MFCSDRV 147

VARIABLES	SN	TYPE	RELOCATION	REFS	13	102	DEFINED	75
1134 PT	3	INTEGER	ARRAY TEST	3	13	102	DEFINED	75
2466 SELFYST	8	INTEGER	ARRAY MFCSCOM	8	13			
6005 WDCNT	3	LOGICAL	ARRAY TEST	3	17	108		
	16	INTEGER		16	27	61	122	DEFINED 26 60
								121

FILE NAMES	MODE	WRITES	32	67	107	106	108	111
4066 DEBUG		113	117	119				
3044 TAPE4	FMT							

EXTERNALS	TYPE	ARGS	REFERENCES	105	112	114	116	118
CLOSEZ		4	126					
EXPAND		4	102					
MFC		0	92					
OPENZ		12	19					
READZ		5	27					

STATEMENT LABELS	DEF LINE	REFERENCES	62	72	76
5124 9	20	125			
5131 10	26	82			
0 11	29	28			
0 12	31	30			
5201 45	44	38			
0 50	46	36			
5203 55	51	42			
5214 100	54	51			
5217 200	58	51			
5220 210	59	68			
0 220	63	62			
0 230	66	65			
5262 300	71	51			
5265 400	75	51			
5270 500	79	51			
5272 600	80	55			
5273 1000	83	28			
0 1100	100	99			
0 1200	88	96			
5474 2000	126	127			
5576 2001	129	29			
5601 2002	130	63			
5603 2003	131				
5605 3001	132	32			
5611 3002	133				
5616 3003	134	108			
5645 3004	138	115			
5654 3005	140	120			
5655 3006	142				
5667 3007	143	20			

STATEMENT LABELS

DEF LINE	REFERENCES
144	67
145	103
148	106
151	117
152	96
153	111
155	119
156	113
128	28

62

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
5154	12	I	30 31	28	INSTACK
5175	50	I	36 46	68	EXITS
5244	230	I	65 66	28	INSTACK
5275	1200	I	86 88	28	INSTACK
5305	1100	I	98 100	28	INSTACK
5313		J	103	68	EXT REFS
5322		J	103	68	EXT REFS
5336		J	106	68	EXT REFS
5345		J	106	68	EXT REFS
5374		J	111	68	EXT REFS
5410		J	113	108	EXT REFS
5426		J	115	68	EXT REFS
5456		J	120	68	EXT REFS

COMMON BLOCKS

TEST	LENGTH	MEMBERS	BIAS NAME(LENGTH)
1355			
608	IATIPP (187)		608 IATIPP (187)
1331	IMPUT (1)		1331 IMPUT (1)
1336	AMASK (16)		1336 AMASK (16)
1354	IMRC (1)		1354 IMRC (1)
0	IDAW (2)		0 IDAW (2)
28	IXFRER (3)		28 IXFRER (3)
0	IPYN (2)		0 IPYN (2)
5	INPRISF (2)		5 INPRISF (2)
0	LWINRY (12)		0 LWINRY (12)
0	NIND (32)		0 NIND (32)
0	YOUT (16)		0 YOUT (16)
31			
9			
12			
32			
16			

EQUIV CLASSES

LENGTH	MEMBERS	BIAS NAME(LENGTH)
1355		
1355		
1355		

STATISTICS

PROGRAM LENGTH	24579	1327
BUFFER LENGTH	51108	2632
COMMON LENGTH	26578	1455

600	BIT (4)	604	BT (4)
795	ATOKEY (96)	891	LUCBLK (448)
1332	QUIESNT (2)	1334	SELFTEST (1)
1352	NW (1)	1353	KEYSET (1)
2	IPFUL1 (13)	15	IBFUL2 (138)
2	IPDFMX (1)	3	RIADD (2)
7	IRIBIT (2)		


```

SUBROUTINE EXPAND(INARRAY, IAW, IBPW, OUTARRAY)
  DIMENSION INARRAY(20)
  INTEGER OUTARRAY(17,20)
  DO UNTIL ALL WORDS HAVE BEEN EXPANDED
    DO 200 I=1,IAW
      DO UNTIL ALL BITS HAVE BEEN EXPANDED FOR A GIVEN WORD
        DO 100 J=1,IBPW
          OUTARRAY(J,I)=SHIFT(INARRAY(I),J-IBPW).AND,IR
        CONTINUE
      END DO
    CONTINUE
  END DO
  DO 200 CONTINUE
END DO
RETURN
END
```

```

MFCSDRV 148
MFCSDRV 149
MFCSDRV 150
MFCSDRV 151
MFCSDRV 152
MFCSDRV 153
MFCSDRV 154
MFCSDRV 155
MFCSDRV 156
MFCSDRV 157
MFCSDRV 158
MFCSDRV 159
MFCSDRV 160
MFCSDRV 161
```

ENTRY POINTS DEF LINE REFERENCES
2 EXPAND 1 13

VARIABLES SN TYPE RELOCATION

34	I	INTEGER		REFS	2*8	DEFINED	5
0	IAM	INTEGER	F.P.	REFS	5	DEFINED	1
0	IBPW	INTEGER	F.P.	REFS	7	DEFINED	1
0	INARRAY	INTEGER	F.P.	REFS	2	DEFINED	1
35	J	INTEGER		REFS	2*8	DEFINED	7
0	OUTARRY	INTEGER	F.P.	REFS	3	DEFINED	1

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES
SHIFT NO TYPE 2 INTRIN 8

STATEMENT LABELS DEF LINE REFERENCES

0	100	9	7
0	200	11	5

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES	NOT INNEP
15	200	* I	5 11	148		
23	100	* J	7 9	48	INSTACK	

STATISTICS
PROGRAM LENGTH 518 41

```

SUBROUTINE PACKPP(NPT,NCPWDS)
COMMON /TEST/IRIBUFF(50,12),RII(2,2),PT(2,2),
* IADTPP(187),ATOKEY(96),LUPBLK(440),
* IMPOUT,QUOTESNT(2),SELFIST(2)
* ,AMASK(16),NA,IKEYSET,IMPD
5 COMMON /QUFLAG/ IDAM(2),IDFUL(13),IDFUL2(13),IXFR=RR(3)
COMMON /MFCSDOM/ IRTN(2),IRTBPMX,RTADD(2),INPRIRF(2),IRTOIT(2)
COMMON /IOEXFC/ LWINRT(12)
COMMON /XINDISI/ NINP(32)
10 COMMON /XODTSC1/ IOUT(16)
DIMENSION MFCBLK(40,2),IMFCPP(17,2)
INTEGER ATOKEY,AMASK,RT,RTADD
EQUIVALENCE (MFCBLK(1,1),LUPBLK(361)),(IMFCPP(1,1),IADTPP(154))
DIMENSION ISHFAMT(5,2)
15 DATA ISHFAMT /40,24,16,4,-8,48,36,24,12,0/
I8=0
I60=2
IMFCPP(1,IKEYSET)=IMFCPP(2,IKEYSET)=IMFCPP(3,IKEYSET)=0
DO 100 I=1,IMPOUT
I8=I8+1
IF(I8,NE,6)GO TO 40
I8=1
I60=I60+1
40 IMFCPP(I60,IKEYSET)=IMFCPP(I60,IKEYSET).OR.
SHIFT(MFCBLK(I,IKEYSET).AND.377400B,ISHFAMT(I8,1))
I8=I8+1
IF(I8,NE,6)GO TO 50
I8=1
I60=I60+1
50 IMFCPP(I60,IKEYSET)=IMFCPP(I60,IKEYSET).OR.
SHIFT(MFCBLK(I,IKEYSET).AND.377B,ISHFAMT(I8,2))
100 CONTINUE
RETURN
END
```

CARD NO. SEVERITY DIAGNOSTIC

24	I	INPUT THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
30	I	INPUT THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.

ENTRY POINTS	DEF LINE	REFERENCES	33
2	1		
VARIABLES	SN	TYPE	RELOCATION
2470 AMASK	INTEGER	ARRAY	TEST
1433 ATOKEY	INTEGER	ARRAY	TEST
1130 BIT	INTEGER	ARRAY	TEST
53 I	INTEGER		
1140 IADTPP	INTEGER	ARRAY	TEST
2 IBFUL1	INTEGER	ARRAY	BUFLAG
17 IBFUL2	INTEGER	ARRAY	BUFLAG
0 IDAM	INTEGER	ARRAY	BUFLAG
2511 IKEYSET	INTEGER	ARRAY	TEST
1371 IMFCPP	INTEGER	ARRAY	TEST
5 INPRTSF	INTEGER	ARRAY	MFCSCOM
0 IOUI	INTEGER	ARRAY	XOUI
2 IRTBFX	INTEGER	ARRAY	MFCSCOM
7 IRTBIT	INTEGER	ARRAY	MFCSCOM
0 IRTBUFF	INTEGER	ARRAY	TEST
0 IRTN	INTEGER	ARRAY	MFCSCOM
54 ISHFAMT	INTEGER	ARRAY	TEST
2463 IMPOUT	INTEGER	ARRAY	TEST
2512 IMRO	INTEGER	ARRAY	BUFLAG
34 IXFREPR	INTEGER	ARRAY	TEST
52 I60	INTEGER		
51 I8	INTEGER		
1573 LUPALK	INTEGER	ARRAY	TEST
0 LWINRT	INTEGER	ARRAY	IOEXEC
2343 MFCBLK	INTEGER	ARRAY	TEST
0 NCPWOS	INTEGER	*UNUSED	F.P.
0 NIND	INTEGER	ARRAY	XINDISI
0 NPT	INTEGER	*UNUSED	F.P.
2510 NW	INTEGER	ARRAY	TEST
2464 OUIESNT	REAL	ARRAY	TEST
1134 RT	INTEGER	ARRAY	TEST
3 RTA00	INTEGER	ARRAY	MFCSCOM
2466 SELFIST	REAL	ARRAY	TEST
INLINE FUNCTIONS	TYPE	ARGS	DEF LINE REFERENCES
SHIFT	NO TYPE	2	INTRIN 24 30
STATEMENT LABELS	DEF LINE	REFERENCES	
27 40	24	21	
41 50	30	27	
0 100	32	19	
LOOPS LABEL	INDEX	FROM-TO	LENGTH PROPERTIES
22 100	I	19 32	258 OPT

SUBROUTINE PACKPP

CNC 650C FPN V3.0-P380 CPT=1 7/8/06/12. 15.16.39.

PAGE

4

COMMON BLOC.
 YES

LENGTH
 1355

MEMBERS - BIAS NAME(LENGTH)

0 IRTBUFF(600)
 608 IADTTP(187)
 1331 IMOUT (1)
 1336 AMASK (16)
 1354 IMPD (1)
 0 INAW (2)
 28 IXFEPR(3)
 0 IRIN (2)
 5 INP=19F(2)
 0 LWINRT (12)
 0 NIND (32)
 0 IOUY (16)

RUFLAG 31

MFCSCOM 9

IOEXEC 12

XINDIS1 32

XODISC1 16

EQUIV CLASSES MEMBERS - BIAS NAME(LENGTH)

IRIBUFF LUPBLK 1355
 IRTBUFF IADTTP 1355

STATISTICS

PROGRAM LENGTH 668 54
 COMMON LENGTH 26578 1455

600 RIT (4)
 795 ATOKEY (96)
 1332 QUIESNT(2)
 1352 NW (1)
 2 IPFUL1 (13)
 2 IPBFXMX(1)
 7 IPIDIT (2)

604 PT (4)
 A91 LUPBLK (440)
 1334 SELTST(2)
 1353 IREYS(11)

15 IPFUL2 (13)

3 IPADOC (12)

SYMBOLIC REFERENCE MAP

VARIABLES	SN	TYPE	RELOCATION	REFS	2	12	DEFINED	35
2470 AMASK		INTEGER	ARRAY	TEST	2	12	DEFINED	35
1433 ATOKEY		INTEGER	ARRAY	TEST	2	12	DEFINED	15
1130 9IT		INTEGER	ARRAY	TEST	2	12	DEFINED	35
1140 IADTTP		INTEGER	ARRAY	TEST	2	13		
2		INTEGER	ARRAY	HUFLAG	6	DEFINED	35	
17		INTEGER	ARRAY	HUFLAG	6	DEFINED	35	
0		INTEGER	ARRAY	HUFLAG	6	DEFINED	35	
0		INTEGER	ARRAY	HUFLAG	6	DEFINED	35	
2511		INTEGER	ARRAY	TEST	2			
1371		INTEGER	ARRAY	TEST	11	13		
5		INTEGER	ARRAY	MFCSCOM	7	DEFINED	35	
0		INTEGER	ARRAY	XODISCI	10	DEFINED	35	
2		INTEGER	ARRAY	MFCSCOM	7	DEFINED	35	
7		INTEGER	ARRAY	MFCSCOM	7	DEFINED	35	
0		INTEGER	ARRAY	TEST	2	DEFINED	35	
0		INTEGER	ARRAY	TEST	2	DEFINED	35	
2463		INTEGER	ARRAY	TEST	2	DEFINED	35	
2512		INTEGER	ARRAY	TEST	2	DEFINED	35	
34		INTEGER	ARRAY	PUFLAG	6			
1573		INTEGER	ARRAY	TEST	2	13	DEFINED	35
0		INTEGER	ARRAY	TEST	2			
2343		INTEGER	ARRAY	TEST	11	13	DEFINED	54
0		INTEGER	ARRAY	XINDISI	9	DEFINED	54	
2510		INTEGER	ARRAY	TEST	2			
2484		LOGICAL	ARRAY	TEST	2	14		
1134		INTEGER	ARRAY	TEST	2	12	DEFINED	35
3		INTEGER	ARRAY	MFCSCOM	7	12	DEFINED	35
2466		LOGICAL	ARRAY	TEST	2	14		
COMMON BLOCKS								
TEST		LENGTH	MEMBERS - BIAS NAME(LENGTH)					
	1355		0 IRTBUFF(600)		600	RT	(4)	
			608 IADTTP(147)		795	ATOKEY	(96)	
			1331 IMPCUT(1)		1332	QUIESNT(2)		
			1336 AMASK(16)		1352	NW	(1)	
			1354 IWRD(1)					
			0 IDAN(2)		2	IRFUL1(13)		
BUFLAG	31		28 IXFRERR(3)					
			0 IRTN(2)		2	IRTRFMX(1)		
MFCSCOM	9		5 INPRTRF(2)		7	IRIBIT(2)		
			0 LWINPT(12)					
IOEXEC	12		0 NIND(32)					
XINDISI	32		0 IOUT(16)					
XODISCI	16							
EQUIV CLASSES								
	LENGTH		MEMBERS - BIAS NAME(LENGTH)					
IRTBUFF	1355		1251 MFCBLK(80)					
IRTBUFF	1355		761 IMFCPP(34)					
STATISTICS								
PROGRAM LENGTH	08							
COMMON LENGTH	26578							


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1  SUBROUTINE MFCS
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COMPUTER SCIENCES CORP HUNTINGDON VALLEY PA
LAMPS SEAS SIMULATION SOFTWARE SUPPORT. APPENDIX I.(U)
JUN 78 N62269

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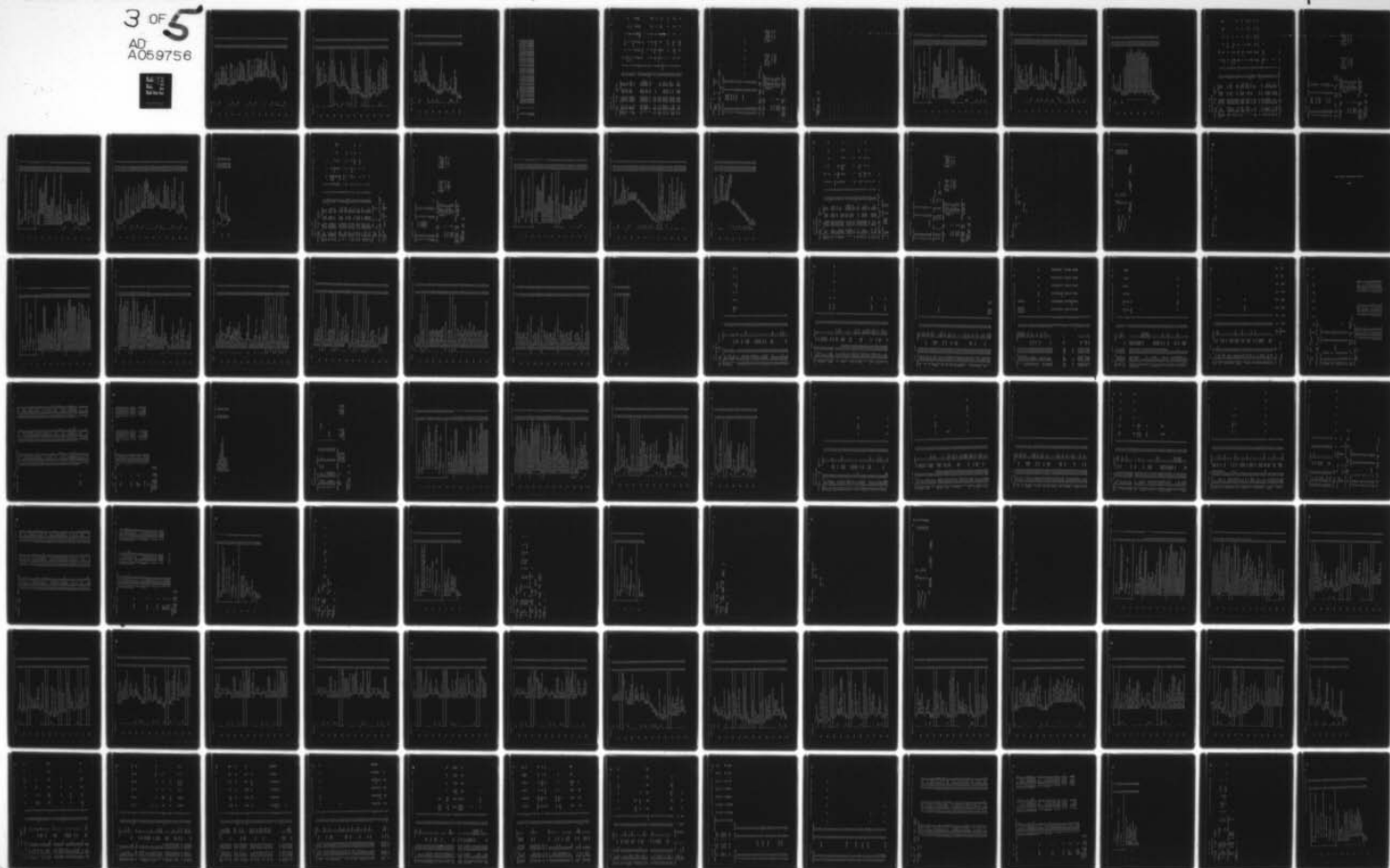
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120      CONTINUE
130      IF(IOWC-1)200,130,200
140      THEN
150      INITIALIZE KEYSET
160      CONTINUE
170      QUIESNT(IKEYSET) = .TRUE.
180      IBFUL1(IPTN(IKEYSET))=0
190      IBFUL2(IPTN(IKEYSET))=0
200      ISLFTST(IKEYSET)=0
210      SELFST(IKEYSET) = .FALSE.
220      GO TO 900
230
240      ELSE
250      TEST FOR INITIATE PROCESSING
260      IF DATA WORD COUNT IS FOUR
270      CONTINUE
280      IF(IOWC-4)300,210,300
290      THEN
300      INITIATE PROCESSING
310      CONTINUE
320      QUIESNT(IKEYSET) = .FALSE.
330      IBFUL1(IPTN(IKEYSET))=0
340      IBFUL2(IPTN(IKEYSET))=0
350      ISLFTST(IKEYSET)=0
360      GO TO 900
370
380      ELSE
390      TEST FOR INITIATE SELF-TEST
400      IF DATA WORD COUNT IS THREE
410      CONTINUE
420      IF(IOWC-3)350,310,350
430      THEN
440      INITIATE SELF-TEST MODE
450      CONTINUE
460      SELFST(IKEYSET) = .TRUE.
470      ISLFTST(IKEYSET) = .R50
480      IBFUL1(IPTN(IKEYSET))=0
490      IBFUL2(IPTN(IKEYSET))=0
500      IMOUT=1
510      SET RECEIVE BUSY BIT
520      MFCOLK(IMOUT,IKEYSET)=
530      RTADD(IKEYSET).OR.10008
540      RETURN=.FALSE.
550      GO TO 900
560
570      ELSE
580      COMMAND NOT PROCESSED BY KEYSETS
590      CONTINUE
600      IBFUL1(IPTN(IKEYSET))=0
610      GO TO 900
620
630      CONTINUE
640      ENDIF
650      ENDIF
660
670      ELSE
680      TEST FOR NORMAL DATA TRANSFER
690      CONTINUE
700      IF(ISAM.NE.1)60 TO 850
710
720      100
730      105
740      110
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```
170      C      1100      SET RETURN FLAG
      C      1110      RETURN = .TRUE.
      C      1120      GO TO 1200
      C      1130      ELSE
      C      1140      SELFST(IKEYSET) = .FALSE.
      C      1150      INPUT=2
      C      1160      MFCBLK(1,IKEYSET)=RTADR(IKEYSET).OR.19
      C      1170      MFCBLK(2,IKEYSET)=BIT(1,IKEYSET)
      C      1180      BIT(2,IKEYSET)=0
      C      1190      RETURN=.FALSE.
      C      1200      CONTINUE
      C      1210      ENDIF
      C      1220      ELSE
      C      1230      CONTINUE
      C      1240      ENDIF
      C      1250      ELSE
      C      1260      CONTINUE
      C      1270      ENDIF
      C      1280      IF RETURN FLAG IS NOT SET
      C      1290      IF (RETURN.AND.MFCBLK(1,IKEYSET).EQ.0) GO TO 1500
      C      1300      THEN
      C      1310      PROCESS NORMAL KEYSET
      C      1320      CALL MFCSPRC
      C      1330      GO TO 1600
      C      1340      ELSE
      C      1350      RETURN
      C      1360      RETURN = .FALSE.
      C      1370      CONTINUE
      C      1380      ENDIF
      C      1390      SET KEYSET INPUT BUFFER COUNTER
      C      1400      IMPRTB(IKEYSET)=IMRD
      C      1410      CONTINUE
      C      1420      ENDDO
      C      1430      RETURN
      C      1440      END
      C      1450      2000 CONTINUE
      C      1460      ENDDO
      C      1470      RETURN
      C      1480      END
      C      1490      156 MFCS
      C      1510      157 MFCS
      C      1530      158 MFCS
      C      1550      159 MFCS
      C      1570      160 MFCS
      C      1590      161 MFCS
      C      1610      162 MFCS
      C      1630      163 MFCS
      C      1650      164 MFCS
      C      1670      165 MFCS
      C      1690      166 MFCS
      C      1710      167 MFCS
      C      1730      168 MFCS
      C      1750      169 MFCS
      C      1770      170 MFCS
      C      1790      171 MFCS
      C      1810      172 MFCS
      C      1830      173 MFCS
      C      1850      174 MFCS
      C      1870      175 MFCS
      C      1890      176 MFCS
      C      1910      177 MFCS
      C      1930      178 MFCS
      C      1950      179 MFCS
      C      1970      180 MFCS
      C      1990      181 MFCS
      C      2010      182 MFCS
      C      2030      183 MFCS
      C      2050      184 MFCS
      C      2070      185 MFCS
      C      2090      186 MFCS
      C      2110      187 MFCS
      C      2130      188 MFCS
      C      2150      189 MFCS
      C      2170      190 MFCS
      C      2190      191 MFCS
```

CARD NO. SEVERITY DIAGNOSTIC

36	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
61	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
65	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
75	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
88	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
94	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
142	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
170	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
172	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
173	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.
174	I	KEYSET THIS STATEMENT MAY REDEFINE A CURRENT LOOP CONTROL VARIABLE OR PARAMETER.

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES
1 NFCS	16	200
VARIABLES	SN	TYPE
2470 AMASK	INTEGER	ARRAY TEST
1433 ATOMEY	INTEGER	ARRAY TEST
1130 BIT	INTEGER	ARRAY TEST
1140 IADIPP	INTEGER	ARRAY TEST
2 IBFUL1	INTEGER	BUFLAG
17 IRFUL2	INTEGER	RUFLAG
0 IDAW	INTEGER	BUFLAG
161 IDWC	INTEGER	TEST
2511 IKEYSET	INTEGER	TEST
1371 IMCEP	INTEGER	ARRAY TEST
5 INPRTB	INTEGER	ARRAY MFCSCOM
0 IOUI	INTEGER	XODISC1
2 IRIBFMX	INTEGER	MFCSCOM
7 IRIBIT	INTEGER	MFCSCOM
0 IRIBUFF	INTEGER	TEST
8 IRIN	INTEGER	MFCSCOM
162 ISAM	INTEGER	ARRAY
164 ISLFTST	INTEGER	ARRAY
163 TTP	INTEGER	TEST
2463 IMPOUT	INTEGER	TEST
2512 IMRD	INTEGER	TEST
34 IXFEPR	INTEGER	BUFLAG
1573 LUPBLK	INTEGER	TEST
0 LWINRT	INTEGER	IDEXFC
2343 MFCOLK	INTEGER	TEST
0 NIND	INTEGER	XINDIS1
2510 NW	INTEGER	TEST
2464 QUIESNT	LOGICAL	TEST
156 RETURN	LOGICAL	TEST
1134 RT	INTEGER	TEST
3 RTADD	INTEGER	MFCSCOM
2466 SELFST	LOGICAL	TEST

SUBR INF MFC

CDC 6600 N V3.0-0380 OPT=1 78/06/12. 15.38.30.

PAGE

STATISTICS

PROGRAM LENGTH	1668	118
COMMON LENGTH	26578	1455

```

1  SUBROUTINE MFCSDX
2
3  ABSTRACT
4  THIS ROUTINE PROCESSES SWITCH DATA FROM THE AYK TO
5  THE SIMULATION HARDWARE KEYS
6
7  CODING HISTORY
8
9  1. PROGRAMMED ROBERT J. HUBER      NOVEMBER 1977  (CSO)
10
11  END OF ABSTRACT
12
13
14
15  SUBROUTINE MFCSDX
16  COMMON /TEST/ITBUFF(50,12),BIT(2,2),RT(2,2),
17  IADTYP(187),ATOKEY(96),LUPBLK(440),
18  IMPOUT,CUIESNT(2),SELFIST(2),
19  ,AMASK(16),NW,IKEYSET,IMFO
20
21  COMMON /BUFLAG/ TOAM(2),TGFUL(13),TGFUL2(13),IXFRERR(3)
22  COMMON /MFCSCON/ IRTN(2),IRTFMX,PTADD(2),INPRTRF(2),IRTRIT(2)
23  COMMON /IOEXEC/ LWINRT(12)
24  COMMON /XINDISI/ NINC(32)
25  COMMON /XODISC1/ IOUT(16)
26  DIMENSION MFCBLK(43,2),IMFCPP(17,2)
27  INTEGER ATOKEY,AMASK,BIT,RT,PTADD
28  EQUIVALENCE (MFCBLK(1,1),LUPBLK(361)),(IMFCPP(1,1),IADTYP(154))
29  DIMENSION IX(10)
30
31  DETERMINE WHICH KEYSET THE DATA IS FOR
32  IF IT'S THE ATO KEYSET
33  IF(IKEYSET.EQ. 2) GO TO 2000
34  THEN
35  BREAK DOWN SWITCH LIGHTING DATA FOR ATO KEYSET
36  ZERO FIRST FIVE WORDS OF DATA TRANSFER AND
37  THE COMMAND WORD THEN INCREMENT BUFFER POINTER
38  DO WHILE THERE ARE WORDS TO BE ZEROED
39  I=1
40  IF(I-6)810,810,825
41  IRTBUFF(I*3D,IRTN(IKEYSET))=0
42  IMRO=IMPO*1
43  I=I+1
44  IF POINTER AT WRAP AROUND POINT
45  IF(PTIRFMX-IMRO)815,820,820
46  THEN
47  RESET POINTER TO *1*
48  IMRO=1
49  ELSE
50  POINTER NOT RESET
51  CONTINUE
52  ENDOF
53  GO TO 800
54  CONTINUE
55  ENDDO

```

```

      IC1=0
      DO WHILE I IS A VALID ATC SWITCH NUMBER (Q THRU 73)
      DO 1900 I=1,74
      IF(IATKEY=ATKEY(I)) .AND. 17779
      IF(IATKEY.EC.1000)GO TO 1900
      JOUT = (IATKEY/16) + 1
      JBIT=IATKEY-(JOUT-1)*16+1
      IC = (I-1)/16
      IBIT=I-IC*16
      IF INPUT BUFFER POINTER CHANGED
      IF(IC1-IC)226,828,828
      THEN
      ZERO PREVIOUS BUFFER WORD
      IRTBUFF(IWRD,IRIN(IKEYSET))=0
      IC1=IC
      IWRD=IWRD+1
      ELSE
      TAKE NO ACTION
      CONTINUE
      ENDF
      IF POINTER AT WRAPAROUND POINT
      CONTINUE
      IF(IRTSMX-IWRD)835,840,840
      THEN
      RESET POINTER TO *1*
      CONTINUE
      IWRD=1
      ELSE
      POINTER NOT RESET
      CONTINUE
      ENDF
      IOUT(JOUT) = (IOUT(JOUT).AND. .NOT.AMASK(JBIT)) .OR.
      (SHIFT(IRTBUFF(IWRD,IRIN(IKEYSET)) .AND.
      AMASK(1BIT),IBIT-JBIT))
      *
      *
      1900 CONTINUE
      ENDDO
      ZERO FINAL BUFFER WORD
      IRTBUFF(IWRD,IRIN(IKEYSET))=0
      GO TO 2200
      ELSE
      95 C INSERT SWITCH LIGHTING DATA FOR THE SO KEYSET
      C-----
      C SWITCH INFO FOR THE SO KEYSET IS SEQUENTIAL IN
      C THE *IOUT* ARRAY
      100 C-----
      CONTINUE
      DO UNTIL NEXT TEN INPUT WORDS LOCATED AND SAVED
      I=1
      IWRD=IWRD+1
      IF POINTER AT WRAP AROUND POINT
      IF(IRTSMX-IWRD)2015,2020,2020
      THEN
      RESET POINTER TO *1*
      CONTINUE
      IWRD=1
      2015
      110

```

MFCSDX 46
MFCSDX 47
MFCSDX 48
MFCSDX 49
MFCSDX 50
MFCSDX 51
MFCSDX 52
MFCSDX 53
MFCSDX 54
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MFCSDX 94
MFCSDX 95
MFCSDX 96
MFCSDX 97
MFCSDX 98
MFCSDX 99
MFCSDX 100.

```

C
C
C 2020
C
115
ELSE
  POINTER NOT RESET
  CONTINUE
  ENDF
  IX(1)=IARD
  I=1
  IF(10-1)2030,2010,2010
    CONTINUE
    ENDD
    ICUT(9)=IPTRUFF(IX(2),IRTN(IKEYSET))
    ICUT(13)=IPTRUFF(IX(3),IRTN(IKEYSET))
    ICUT(15)=IPTRUFF(IX(5),IRTN(IKEYSET)).AND.1740008).OR.
      (SHIFT(IPTRUFF(IX(6),IRTN(IKEYSET)).AND.748,5)).OR.
      (SHIFT(IPTRUFF(IX(6),IRTN(IKEYSET)).AND.18,6)).OR.
      (SHIFT(IPTRUFF(IX(7),IRTN(IKEYSET)).AND.1600008,-10)).OR.
      (SHIFT(IPTRUFF(IX(7),IRTN(IKEYSET)).AND.40008,-9)).OR.
      (SHIFT(IPTRUFF(IX(7),IRTN(IKEYSET)).AND.3008,-6))
    ICUT(8)=IPTRUFF(IX(1),IRTN(IKEYSET)).AND.1000778).OR.
      (SHIFT(IPTRUFF(IX(7),IRTN(IKEYSET)).AND.148,11)).OR.
      (SHIFT(IPTRUFF(IX(7),IRTN(IKEYSET)).AND.18,12)).OR.
      (SHIFT(IPTRUFF(IX(8),IRTN(IKEYSET)).AND.100008,-1)).OR.
      (SHIFT(IPTRUFF(IX(8),IRTN(IKEYSET)).AND.3008,3)).OR.
      (SHIFT(IPTRUFF(IX(9),IRTN(IKEYSET)).AND.200008,-5)).OR.
      (SHIFT(IPTRUFF(IX(9),IRTN(IKEYSET)).AND.50008,-4))
    ICUT(14)=IPTRUFF(IX(4),IRTN(IKEYSET)).AND.1774178).OR.
      (SHIFT(IPTRUFF(IX(9),IRTN(IKEYSET)).AND.5008,2)).OR.
      (SHIFT(IPTRUFF(IX(9),IRTN(IKEYSET)).AND.38,4))
    C
    C 00 UNTIL INPUT BUFFER IS ZEROED FOR THIS TRANSFER
    C 2300 I=1,10
    IPTRUFF(IX(1),IRTN(IKEYSET))=0
    CONTINUE
    END DO
    C 2200 CONTINUE
    C
    ENDF
    RETURN
    END
140
135
130
125
120
115
MFCSDX 101
MFCSDX 102
MFCSDX 103
MFCSDX 104
MFCSDX 105
MFCSDX 106
MFCSDX 107
MFCSDX 108
MFCSDX 109
MFCSDX 110
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MFCSDX 132
MFCSDX 133
MFCSDX 134
MFCSDX 135
MFCSDX 136

```


STATEMENT LABELS

DEF LINE REFERENCES

6	800		40	53
0	810	INACTIVE	41	2*40
0	815	INACTIVE	48	45
22	820		51	2*45
23	825		54	40
0	826	INACTIVE	69	2*66
55	828		74	66
0	830	INACTIVE	77	
0	835	INACTIVE	81	78
61	840		85	2*78
71	1900		90	58
101	2000		101	33
102	2010		104	2*117
0	2015	INACTIVE	109	106
106	2020		113	2*106
0	2030	INACTIVE	118	117
205	2200		143	94
0	2300		141	139

60

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
31	1900	* I	58 90	438	CPI
201	2300	I	139 141	48	INSTACK

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

0	IRIBUFF	(600)
608	IAOTPP	(137)
1331	INOUT	(1)
1336	AMASK	(16)
1354	INPO	(1)
0	IDAM	(2)
28	IXERRR	(3)
0	IRTN	(2)
5	INPRTBF	(2)
0	LWINRT	(12)
0	NIND	(32)
0	TOUT	(16)

600	BIT	(4)
795	ATOKEY	(94)
1332	QUIESNT	(2)
1352	NW	(1)

604	PT	(4)
891	LUPBLK	(440)
1374	SELFCTM2	
1353	KEYSET	(1)

15	IRFUL2	(13)
2	IRFUL1	(13)
2	IPTRFMX	(1)
7	IRPRIT	(2)
3	PIADD	(2)

EQUIV CLASSES LENGTH MEMBERS - BIAS NAME(LENGTH)

0	IRIBUFF	(600)
1251	MFCBLK	(80)
761	IMFCPP	(34)

STATISTICS

PROGRAM LENGTH	2278	151
COMMON LENGTH	26578	1455

```

C-----
C SUBROUTINE MFCSPDC
C
C ABSTRACT
C
C 5
C
C THIS ROUTINE PROCESSES SWITCH CLOSURE DATA FROM THE ATO AND
C SO KEYSETS TO BE SENT TO THE AVK-14 AOP
C
C PROGRAMMING HISTORY
C
C 10
C
C 1. PROGRAMMED -- ROBERT J. HUBER NOVEMBER 1977 (CSC)
C
C END OF ABSTRACT
C-----
C
C SUBROUTINE MFCSPDC
COMMON /TEST/IRIBUFF(50,12),BIT(2,2),RT(2,2),
* IADTPP(187),ATOKEY(96),LUPBLK(440),
* IMOUT,QUIESNT(2),SELFISI(2)
* ,AMASK(16),NM,IKEYSET,IMPD
COMMON /BUFLAG/ IDAN(2),IRFUL(13),IRFUL2(13),IXFRFR(3)
COMMON /MFCSCOM/ IRIN(2),IRTBFX,RTADD(2),INPRTBF(2),IFIBIT(2)
COMMON /IOEXEC/ LWINRT(12)
COMMON /XINDIS1/ NIND(32)
COMMON /XODDIS1/ IOUT(16)
DIMENSION MFCBLK(40,2),IMFCPP(17,2)
INTEGER ATOKEY,AMASK,BIT,RT,RTADD
EQUIVALENCE (MFCBLK(1,1),LUPBLK(361)),(IMFCPP(1,1),IADTPP(154))
LOGICAL OUTPUT
DATA IRIBIT/10000,20000/
IRI=RTADD(IKEYSET)
IF ATO FAULT BIT SET HIGH
IBIT=(BIT(1,IKEYSET).AND.1000).AND.(.NOT.BIT(2,IKEYSET)).AND.1000
IF (IBIT)100,150,100
THEN
SET UP BIT TO BE TRANSMITTED TO ACP
CONTINUE
IMOUT=2
MFCBLK(1,IKEYSET)=IRI.OR.10
MFCBLK(2,IKEYSET)=IBIT
IRI=MFCBLK(1,IKEYSET)
GO TO 200
ELSE
SET OLD BIT TO NEW BIT
CONTINUE
BIT(2,IKEYSET)=BIT(1,IKEYSET)
200 CONTINUE
ENDIF
CHECK FOR SW CLOSURE DATA TO BE SENT TO AOP
CALL MFCSDO
IF THERE IS KEYSWITCH DATA
IF (NM)210,300,210
THEN
SETUP OUTPUT BUFFER TO ACP
CONTINUE
210

```



```

101      SET PP ERROR FLAG      MFCSPC
102      CONTINUE               MFCSPC
103      IXPERR(1)=IXFERR(1).OR.IXTBIT(IKEYSET) MFCSPC
104      CONTINUE               MFCSPC
105      CONTINUE               MFCSPC
106      CONTINUE               MFCSPC
107      ELSE                   MFCSPC
108      NC OUTPUT TO AOP THIS CYCLE MFCSPC
109      CONTINUE               MFCSPC
110      RETURN                 MFCSPC
111      END                     MFCSPC

```

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES	RELOCATION
1 MFCSPFC	15	120	
VARIABLES	SN	TYPE	RELOCATION
2470 AMASK	INTEGER	ARRAY	TEST
1433 ATOKEY	INTEGER	ARRAY	TEST
1130 BIT	INTEGER	ARRAY	TEST
1140 IADTTP	INTEGER	ARRAY	TEST
2 IBFULL1	INTEGER	ARRAY	BUFLAG
17 IBFUL2	INTEGER	ARRAY	BUFLAG
120 IBIT	INTEGER	ARRAY	BUFLAG
0 IDAM	INTEGER	ARRAY	BUFLAG
2511 IKEYSFT	INTEGER	TEST	TEST
1371 INFOPP	INTEGER	ARRAY	TEST
5 INPRTBF	INTEGER	ARRAY	MFCSCOM
0 IOUT	INTEGER	ARRAY	XODIS01
117 IRT	INTEGER	ARRAY	MFCSCOM
2 IRTFMX	INTEGER	ARRAY	MFCSCOM
7 IRTBIT	INTEGER	ARRAY	MFCSCOM
0 IRTBUFF	INTEGER	ARRAY	TEST
0 IRIN	INTEGER	ARRAY	MFCSCOM
2463 IMPUT	INTEGER	TEST	TEST
2512 INPD	INTEGER	TEST	TEST
34 IXPRFR	INTEGER	ARRAY	BUFLAG
1573 LUPBLK	INTEGER	ARRAY	TEST
0 LWINPT	INTEGER	ARRAY	IOEXEC
2343 MFCBLK	INTEGER	ARRAY	TEST
0 NIND	INTEGER	ARRAY	XINDIS1
2510 NW	INTEGER	ARRAY	TEST
116 OUTPUT *	LOGICAL	*UNDEF	TEST
2484 OUTESNT	REAL	ARRAY	TEST
1134 RT	INTEGER	ARRAY	TEST
3 RTADD	INTEGER	ARRAY	MFCSCOM
2466 SELFTST	REAL	ARRAY	TEST
EXTERNALS	TYPE	ARGS	REFERENCES
MFCIND		2	50
PACKPP		2	78
XOR	REAL	2	94

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
SHIFT	NO TYPE	2	INTRIN	79

STATEMENT LABELS	DEF LINE	REFERENCES
0 100	INACTIVE.	37
23 150		45
		234
		34

STATEMENT LABELS

DEF LINE REFERENCES

42

47

55

58

63

69

73

77

88

91

100

106

112

114

119

102

108

61

2*52

2*F1

65

70

74

2*85

85

2*74

2*70

2*65

97

61

2*52

2*F1

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2*74

2*70

2*65

97

61

2*52

2*F1

```

C-----
C SUBROUTINE MFCSDND
C
C
C      5 ABSTRACT
C
C THIS ROUTINE PROCESSES DISCRETES FROM THE KEYSETS
C (ATO AND SO) TO BE SENT TO THE AYK-14 AOP
C
C CODING HISTORY
C
C      10
C
C      15 -1. PROGRAMMED -- ROBERT J. HURER NOVEMBER 1977 (CSC)
C
C END OF ABSTRACT
C-----
C
C SUBROUTINE MFCSDND
C COMMON /TEST/IRTSUFF(50,12),RTT(2,2),RTT(2,2),
C * IADTPP(187),ATOKEY(96),LUPBLK(440),
C * IMOUT,QUIESNT(2),SELFSTY(2)
C * AMASK(16),NA,IKEYSET,IMED
C COMMON /BUFLAG/ IDAM(2),IBFUL(13),IBFUL2(13),IXFRPP(3)
C COMMON /MFCSCOM/ IRTN(2),IRTBFMX,RTAOD(2),INPRTRF(2),IRTBIT(2)
C COMMON /IOEXEC/ LWINPT(12)
C COMMON /XINDIS1/ NIND(32)
C COMMON /XODISG1/ IOUT(16)
C DIMENSION MFCBLK(43,2),IMFCPP(17,2)
C INTEGER ATOKEY,AMASK,RTI,RY,RTAOD
C EQUIVALENCE (MFCBLK(1,1)),LUPBLK(351)),IMFCPP(1,1),IADTPP(154))
C DIMENSION INDSO(5),IAMATC(6)
C NW=0
C-----
C IF THE SO KEYSET IS BEING PROCESSED
C-----
C IF(IKEYSET.EQ.1)GO TO 400
C THEN
C DECODE SO DISCRETES
C TRANSFER SO INDISCRETES INTO WORKING ARRAY
C INDSO(1)=NIND(13)
C INDSO(2)=NIND(14)
C INDSO(3)=NIND(29)
C INDSO(4)=NIND(28)
C INDSO(5)=NIND(27).AND.174[008]
C DO UNTIL ALL INDISCRETES ARE SCANNED
C DO 300 I=1,5
C   KEY=(I-1)*16-1
C   IF SO INDISCREF HAS *HI* BIT(S)
C     IF(INDSO(I))210,290,210
C     THEN
C       DO UNTIL ALL BITS ARE TESTED
C         CONTINUE
C         DO 280 J=1,16
C           KEY=KEY+1
C           IF THE J-TH BIT IS *HI*
C             IF(INDSO(I)).AND.AMASK(J))220,270,220
C           210
C           C
C           300
C           25
C           45
C           50

```



```

46 MFCSSND
47 MFCSSND
48 MFCSSND
49 MFCSSND
50 MFCSSND
51 MFCSSND
52 MFCSSND
53 MFCSSND
54 MFCSSND
55 MFCSSND
56 MFCSSND
57 MFCSSND
58 MFCSSND
59 MFCSSND
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90 MFCSSND
91 MFCSSND
92 MFCSSND
93 MFCSSND
94 MFCSSND
95 MFCSSND
96 MFCSSND
97 MFCSSND
98 MFCSSND
99 MFCSSND
100 MFCSSND

THEN
  INCREMENT WORD COUNT FOR RT STATUS
  AND PUT KEY VALUE INTO HOLDING
  ARRAY
  CCNTINUE
  NK=NK+1
  IMPUT=IMPUT+1
  MFCBLK(IMPOT,IKEYSET)=SHIFT(KEY,9)
  IF DATA WORD COUNT IS TWO
  IF (NW-2,260,230,260
  THEN
    SET INDIS TO ZERO
    CONTINUE
    INDSO(1)=0
    INDSO(2)=0
    INDSO(3)=0
    INDSO(4)=0
    INDSO(5)=0
  ELSE
    CONTINUE
    FNDIF
  ELSE
    CONTINUE
    ENCIF
  CONTINUE
  ENDDO
  FALSE
  CONTINUE
  ENCIF
  CONTINUE
  ENDDO
  GO TO 1000
  ELSE
    CONTINUE
  ENDIF
  PROCESS ATO KEYSWITCH CLOSURES
  TRANSFER INDISCRETES INTO WORKING ARRAY FOR ATO
  DO 425 I=1,5
    INDATO(I)=NING(I)
  CONTINUE
  INDATO(6)=NING(12)
  DO WHILE THERE ARE KEYWORDS FOR THE ATO KEYSET
  DO 600 I=1,6
    IF ANY OF THE BITS ARE SET IN THE INDISCRETE WORD
    IF (INDATO(I).EQ.0R) GO TO 550
  THEN
    EXTRACT SWITCH CLOSURE DATA
    DO WHILE J IS ONE OF THE SIXTEEN BITS OF DATA
    DO 500 J=1,16
      IKEY=(I-1)*16+J
      IRT=SHIFT(INDATO(I),J-16) .AND. 1E
      IF THE BIT IS ON
      IF (IRT .EQ. 0) GO TO 475
    THEN
      105
      110

```

```

C      *
C      IF IT'S AN ATO KEY SWITCH
C      IF(SHIFT(ATOKEY(IKEY),-70).EQ.6008)
C      GC TO 450
C      THEN
C      INCREMENT WORD COUNT FOR RT STATUS
C      WORD AND HOLDING ARRAY, THEN PUT
C      SWITCH NUMBER INTO HOLDING ARRAY
C      NW=NW+1
C      IF(NW.GT.2) GO TO 1000
C      IMPOUT=IMPOUT+1
C      MFCBLK(IMPOUT,IKEYSET)=SHIFT
C      {ATOKEY(IKEY),-21}
C      .ANC.1770DCB
C      ELSE
C      CONTINUE
C      ENDOF
C      ELSE
C      CONTINUE
C      ENDF
C      CONTINUE
C      ENDC
C      ELSE
C      CONTINUE
C      ENDOF
C      CONTINUE
C      ENDDO
C      900 CONTINUE
C      ENDF
C      1000 CONTINUE
C      RETURN
C      END

```

ENTRY POINTS	DEF LINE	REFERENCES
1	MFCIND	17
VARIABLES	SN	TYPE
2470	AMASK	INTEGER
1433	ATKEY	INTEGER
1130	BIT	INTEGER
122	I	INTEGER
1140	IADTPP	INTEGER
2	IBFUL1	INTEGER
17	IBFUL2	INTEGER
126	IBIT	INTEGER
0	IDAM	INTEGER
125	IKAY	INTEGER
2511	KEYSET	INTEGER
1371	IMFOPP	INTEGER
134	INDATO	INTEGER
127	INDSO	INTEGER
5	INPRIBF	INTEGER
0	IOUT	INTEGER
2	IRIBFMX	INTEGER
7	IRIBIT	INTEGER
0	IRIBUFF	INTEGER
0	IOTN	INTEGER
2463	INPUT	INTEGER
2512	IMPO	INTEGER
34	IXPRERR	INTEGER
124	J	INTEGER
123	KEY	INTEGER
1573	LUPBLK	INTEGER
0	LWINRT	INTEGER
2343	MFCOLK	INTEGER
0	NIND	INTEGER
2510	NW	INTEGER
2464	QUIESNT	REAL
1134	PT	INTEGER
3	RTAOD	INTEGER
2466	SELFTST	REAL
INLINE FUNCTIONS	TYPE	ARGS
SHIFT	NO	TYPE
	2	INTRIN
DEF LINE	REFERENCES	
51	2*48	
60	2*55	
65	65	
68	68	
75	75	
STATEMENT LABELS	DEF LINE	REFERENCES
0 210	INACTIVE	
0 220	INACTIVE	
0 230	INACTIVE	
44 260		

STATEMENT LABELS

DEF LINE REFERENCES

DEF LINE	REFERENCES
44	270
45	280
46	290
47	300
48	310
49	320
50	330
51	340
52	350
53	360
54	370
55	380
56	390
57	400
58	410
59	420
60	430
61	440
62	450
63	460
64	470
65	480
66	490
67	500
68	510
69	520
70	530
71	540
72	550
73	560
74	570
75	580
76	590
77	600
78	610
79	620
80	630
81	640
82	650
83	660
84	670
85	680
86	690
87	700
88	710
89	720
90	730
91	740
92	750
93	760
94	770
95	780
96	790
97	800
98	810
99	820
100	830
101	840
102	850
103	860
104	870
105	880
106	890
107	900
108	910
109	920
110	930
111	940
112	950
113	960
114	970
115	980
116	990
117	1000
118	1010
119	1020
120	1030
121	1040
122	1050
123	1060
124	1070
125	1080
126	1090
127	1100
128	1110
129	1120
130	1130
131	1140
132	1150
133	1160
134	1170
135	1180
136	1190
137	1200
138	1210
139	1220
140	1230
141	1240
142	1250
143	1260
144	1270
145	1280
146	1290
147	1300
148	1310
149	1320
150	1330
151	1340
152	1350
153	1360
154	1370
155	1380
156	1390
157	1400
158	1410
159	1420
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162	1450
163	1460
164	1470
165	1480
166	1490
167	1500
168	1510
169	1520
170	1530
171	1540
172	1550
173	1560
174	1570
175	1580
176	1590
177	1600
178	1610
179	1620
180	1630
181	1640
182	1650
183	1660
184	1670
185	1680
186	1690
187	1700
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195	1780
196	1790
197	1800
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203	1860
204	1870
205	1880
206	1890
207	1900
208	1910
209	1920
210	1930
211	1940
212	1950
213	1960
214	1970
215	1980
216	1990
217	2000
218	2010
219	2020
220	2030
221	2040
222	2050
223	2060
224	2070
225	2080
226	2090
227	2100
228	2110
229	2120
230	2130
231	2140
232	2150
233	2160
234	2170
235	2180
236	2190
237	2200
238	2210
239	2220
240	2230
241	2240
242	2250
243	2260
244	2270
245	2280
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247	2300
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263	2460
264	2470
265	2480
266	2490
267	2500
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269	2520
270	2530
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273	2560
274	2570
275	2580
276	2590
277	2600
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287	2700
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294	2770
295	2780
296	2790
297	2800
298	2810
299	2820
300	2830
301	2840
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304	2870
305	2880
306	2890
307	2900
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309	2920
310	2930
311	2940
312	2950
313	2960
314	2970
315	2980
316	2990
317	3000
318	3010
319	3020
320	3030
321	3040
322	3050
323	3060
324	3070
325	3080
326	3090
327	3100
328	3110
329	3120
330	3130
331	3140
332	3150
333	3160
334	3170
335	3180
336	3190
337	3200
338	3210
339	3220
340	3230
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342	3250
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415	3980
416	3990
417	4000
418	4010
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426	4090
427	4100
428	4110
429	4120
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437	4200
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599	5820
600	

XOR
STORAGE ALLOCATION.

COMPASS - VER 2.

78/06/12. 15.28.54.

PAGE

BINARY CONTROL CARDS.

ADDRESS LENGTH

0 3
3

IDENT XOR
END

ENTRY POINTS.

XOR - 0

X09

COMPASS - VER 2.

78/06/12. 15.18.54.

PAGE

0 00000000000000000000000000000000 XOR
1 53210 50310000001 53330
2 13623 04000000000 +
3
IDENT XOR
ENTRY XOR
DATA 0
SA2 X1
SA3 A1+1
FX6 X3
FQ X2-X3
END XOR

STORAGE USED
6600 ASSEMBLY

9 STATEMENTS
0.021 SECONDS

1 SYMBOLS
3 REFERENCES

EXPAND 2
EXPAND 3
EXPAND 4
EXPAND 5
EXPAND 6
EXPAND 7
EXPAND 8
EXPAND 9
EXPAND 10

XOR
SYMBOLIC REFERENCE TABLE.

PAGE

78/06/12. 15.38.54.

COMPASS - VER 2.

2/08

2/03 L

2/02 E

PROGRAM*

3

XOR

MAD SIGNAL PROCESSOR MODULE

(MSP)


```
C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPRIME,AZSCNLM,CLUTTER,DELXI,DELYI,DELZI,DLTPHIR,
* GRAZANG,IPOSYM9,IGFAR,IPFSPIS,IRDFILE(120),IPRODPC(21),IRDFIOX,
* IRDRQOF,IPDSIZE,IRETURN(30),IPDRSC,ISEASIF,IJGIN,
* JROP,NPC,PD,PHIR,KCNOISE,PRGRNM,SP(5),SIGMA,SIGMAO,
* XINLSEA(9),VINLSEA(9),XSN,YEPD,XPOCNR,XPOCNR,DC113,DC123,
* RCL33,SNPHIR,CSPHIR,CSXLDZI,GPLMOAC(21),RADPACS(9)
* ,KRRCYC,TR12,M3(21),XFA(21),YFA(21),ISIZE,IFAIL(9),FARGLM
C-----ESM TABLES
COMMON IEMT(105,3),ITRKFIL(100),ILIR,INTVFSM(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON//IOCTAVE(4),AKER,NUMBIN,COSB(16),SINB(16),SIG(16),NOIS(16),
X SIGNAL(16,8,4),COSD(16,8,4),SIND(16,8,4),ANARR(16,8),FI(8,4),
X ADU,SANGERR,CVPANGF,KPSVTHR,
X IVERN(2,8,4),FPLCG(8,4),ALGAKER,ALGAKFV,ALGIND,IFRANC,AKFRV
COMMON // ION,GAMMAS,REFRIF,KVALFTP,IDAM(2)
COMMON /HORIZN/ HORLIM
COMMON /CONST/ AMCCNS(16)
COMMON // NIURUF(10),NIURUF(17),NIURUF(40),
* MSP1BUF(40), MSP2BUF(17), MSP1BUF(40)
* , MAGCISP(3), IOPACU(4), MUXIRUF(50), MUXORBUF(17)
* , MUXABUF(256), MUX1BUF(40), KATORUF(1024), KSOBUF(1024)
* , NIUBIT , MSPBIT , MUXBIT(2)
* , TACFANG, TACREAR, ITACVAL, STKATO(2), STKS0(2)
COMMON/MAN/IREELCM,RCLO,NCOSE,IPEEL,
X AMAD,GAIN,IAMAD,MADELG,AMADDET(3,9),IEVENT
X ,EVENTIN,EVENTI2)
COMMON/LATLONG/ISLAT1,ISLAT2,ISLAT3,ISTLON1,ISTLON2,ISTLON3
* ,ISLAT4,ISTLON4
COMMON/SELFY/SELFYST
INTEGER SELFYST
DATA KEND /40/
ZERO INPUT BUFFER
C DOWNHILE ANOTHER INPUT BUFFER WORD AVAILABLE
C DO 50 K=1,KEND
C INSERT ZERO WORD
C MSP1BUF(K) = 1
50 CONTINUE
C ENDDO
PRINTON = .TRUE.
LOCKON DETECT (SYSTEM READY) SET
ION=1
C ALTITUDE = 512 FEET
HEL0(15) = -512.0
C PRELIMINARY EVENT FLAG ON
IEVENT = 1
C TIME OF PRELIMINARY EVENT = 100 SECONDS
AMADDET(1,9) = 100.0
C CURRENT TIME = 101 SECONDS
TIME = 101.0
C R/V = 1.0
AMADDET(1,5) = 1.0
AMADDET(2,5) = 1.0
C CONFIRMED DETECT FLAG CN FOR (2,*)
```

BLANK 39
BLANK 40
BLANK 41
BLANK 42
BLANK 43
BLANK 44
BLANK 45
BLANK 46
BLANK 47
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BLANK 49
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BLANK 60
BLANK 61
BLANK 62
MSPC 21
MSPC 22
MSPC 23
MSPC 24
MSPC 25
MSPC 26
MSPC 27
MSPC 28
MSPC 29
MSPC 30
MSPC 31
MSPC 32
MSPC 33
MSPC 34
MSPC 35
MSPC 36
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MSPC 40
MSPC 41
MSPC 42
MSPC 43
MSPC 44
MSPC 45
MSPC 46
MSPC 47
MSPC 48
MSPC 49
MSPC 50
MSPC 51

```

115  C AMODEI(1,8) = 0
      AMODEI(2,8) = 1.0
      AMODEI(3,8) = 0
      TIME OF CONFIRMED DETECT = 100 SECONDS
      AMODEI(2,9) = 100.0
      SLANT RANGE = 7 FEET
      AMODEI(2,4) = 7.0
      DEGREES TO RADIAN
      AMCONS(15) = ASIN(1.0)/90.0
      AMCONS(16) = 1.0/AMCONS(15)
      MSB GAMMAS = 18, LSB GAMMAS = 18
      GAMMAS = 9.09424
      ROLL = 22.5 DEGREES
      HELOC(4) = 22.5 * AMCONS(15)
      HEADING = 11.25 DEGREES
      HELOC(1) = 11.25 * AMCONS(15)
      GROUND SPEED = 64 KNOTS
      HELOC(12) = 64.0 * (6080.0/3600.0)
      LONGITUDE = 180 BARS
      ISILON1 = 180
      ISILON2 = 0
      ISILON3 = 0
      ISILON4 = 3
      LATITUDE = 5.625 BARS
      ISLAT1 = 87
      ISLAT2 = 10
      ISLAT3 = 9
      ISLAT4 = 8
      CHANGE IN POSITION
      DELTA X = +1 FOOT
      DELTA Y = -1 FOOT
      HELOC(13) = 1.0
      HELOC(14) = -1.0
      NO INITIAL FAULTS
      MSPBIT = 0
      INITIALIZE CP,PP DATA AVAILABLE WORDS
      IDAW(1) = IDAW(2) = 0
      RESPONSE TO NO COMMANDS
      PRINT 100
      100 FORMAT(*1,10(*-*),* RESPONSE TO NO COMMANDS*,10(*-*))
      CALL XMSPI(K, KEND)
      IPL SEQUENCE
      PRINT 200
      200 FORMAT(*1,10(*-*),* IPL SEQUENCE *,10(*-*))
      1. CONTROL COMMAND
      PRINT 210
      210 FORMAT(*0*,20(*-*),* 1. CONTROL COMMAND*)
      KOLD = K
      MSPIBUF(K)=642418

```



```
225      630      CONTINUE
          C      ENDDO
          PRINT = .TRUE.
          PRINT 700, J
          700 FORMAT('0',20('---'),15,' ITERATIONS LATER')
          C-----
          C      INITIALIZATION SEQUENCE
          C-----
          C      PRINT 800
          800 FORMAT('1',10('---'),* INITIALIZATION SEQUENCE *,10('---'))
          C      KOLD = K
          C      1. INITIALIZE TERMINAL
          MSPIBUF(K) = 64001B
          CALL ADVANCE(K, KEND)
          2. TRANSMIT BIT STATUS
          MSPIBUF(K) = 64100B
          CALL ADVANCE(K, KEND)
          C      3. INITIATE PROCESSING
          MSPIBUF(K) = 64004B
          CALL ADVANCE(K, KEND)
          235      C      CALL XMSPI(KOLD, KEND)
          240      C      ALSO EXECUTE WITH NO INPUT
          PRINT 900
          900 FORMAT('0',20('---'),* NULL INPUT*)
          KOLD = K
          CALL XMSPI(KOLD, KEND)
          C-----
          C      DATA TRANSFER SEQUENCE
          C-----
          250      PRINT 1000
          1000 FORMAT('1',10('---'),* DATA TRANSFER SEQUENCE *,10('---'))
          KOLD = K
          C      9 WORDS TO BE TRANSFERRED
          MSPIBUF(K) = 64051B
          CALL ADVANCE(K, KEND)
          255      C      WORD 1 - ALTITUDE = 512 FEET
          MSPIBUF(K) = 1000B
          CALL ADVANCE(K, KEND)
          C      WORD 2 - SPEED = 64 KNOTS
          MSPIBUF(K) = 22000B
          CALL ADVANCE(K, KEND)
          260      C      WORD 3 - HEADING = 11.25 DEGREES
          MSPIBUF(K) = 40400B
          CALL ADVANCE(K, KEND)
          C      WORD 4 - ROLL = 22.5 DEGREES
          MSPIBUF(K) = 61000B
          CALL ADVANCE(K, KEND)
          265      C      WORD 5 - MAD MSB = 1B
          MSPIBUF(K) = 100001B
          CALL ADVANCE(K, KEND)
          C      WORD 6 - MAD LSB = 1B
          MSPIBUF(K) = 10B
          270      C      CALL ADVANCE(K, KEND)
          C      WORD 7 - POSITION = 5.625 BAMS LATITUDE, 180 BAMS LONGITUDE
          MSPIBUF(K) = 130002B
```

MSPC 162
MSPC 163
MSPC 164
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MSPC 211
MSPC 212
MSPC 213
MSPC 214
MSPC 215
MSPC 216

PROG:M MSPDIV

```

      CALL ADVANCE( K, KEND)
      WORD 9 - ALTITUDE COMPENSATION = -7.0 FEET
      MSPIDUF(K) = 1501603
      CALL ADVANCE( K, KEND)
      WORD 9 - OPTION = 0
      MSPIDUF(K) = 160000R
      CALL ADVANCE( K, KEND)
      SEND DATA TO MSP
      CALL XMSPI( KOLD, KEND)
      SET UP REQUEST FOR DATA FROM MSP
      PRINT 1100
      1100 FORMAT(*0*,20(*--*),* REQUEST TO SEND DATA*)
      KOLD = K
      MSPIDUF(K) = 66044B
      CALL ADVANCE( K, KEND)
      SEND REQUEST TO MSP
      CALL XMSPI( KOLD, KEND)
      SET UP CHANGE OF OPTION TO 1
      PRINT 1110
      1110 FORMAT(*0*,20(*--*),* OPTION CHANGED TO 1 *)
      KOLD = K
      1 WORD TO BE TRANSFERRED
      MSPIDUF(K) = 64041B
      CALL ADVANCE( K, KEND)
      WORD 1 - OPTION = 1
      MSPIDUF(K) = 164000R
      CALL ADVANCE( K, KEND)
      SEND DATA TO MSP
      CALL XMSPI( KOLD, KEND)
      SET UP CHANGE OF OPTION TO 2
      PRINT 1120
      1120 FORMAT(*0*,20(*--*),* OPTION CHANGED TO 2 *)
      KOLD = K
      1 WORD TO BE TRANSFERRED
      MSPIDUF(K) = 64041B
      CALL ADVANCE( K, KEND)
      WORD 1 - OPTION = 2
      MSPIDUF(K) = 170000R
      CALL ADVANCE( K, KEND)
      SEND DATA TO MSP
      CALL XMSPI( KOLD, KEND)
      SEND REQUEST TO SEND DATA
      PRINT 1100
      KOLD = K
      MSPIDUF(K) = 66043B
      CALL ADVANCE( K, KEND)
      CALL XMSPI( KOLD, KEND)
      SET UP NULL INPUT
      PRINT 1200
      1200 FORMAT(*0*,20(*--*),* NULL INPUT *)
      KOLD = K
      SEND TO MSP
      CALL XMSPI( KOLD, KEND)
      C-----
      330 C ERROR PROCESSING SECTION

```

```
C-----
PRINT 1300
1300 FORMAT(*1,10(*-*),* ERROP BIT SET *,10(*-*))
KOLD = K
MSPBIT = 00( MSPBIT, 1000000)
C SEND NULL INPUT WITH ERROP BIT ACTIVATED
CALL XMS( KOLD, KEND)
C-----
C END OF PROGRAM
C-----
STOP 1
END -
```

```
MSPD 272
MSPD 273
MSPD 274
MSPD 275
MSPD 276
MSPD 277
MSPD 278
MSPD 279
MSPD 280
MSPD 281
MSPD 282
MSPD 283
```


PROGRAM M5P0RIV

VARIABLES SN TYPE RELOCATION

45	EVENT	REAL	ARRAY	MAD	REFS	90
44	EVENTIM	REAL	ARRAY	MAD	REFS	80
2301	EXPCIR	REAL	ARRAY	REFS	REFS	38
4753	FANGLM	REAL	ARRAY	REFS	REFS	57
11107	FI	REAL	ARRAY	REFS	REFS	67
2244	FIXDES	REAL	ARRAY	REFS	REFS	38
11253	FRLOG	REAL	ARRAY	REFS	REFS	67
355	FTE	REAL	ARRAY	REFS	REFS	20
340	FTNAV	REAL	ARRAY	REFS	REFS	20
5	GAIN	REAL	ARRAY	REFS	REFS	20
11321	GANNAS	REAL	ARRAY	REFS	REFS	71
4502	GMLMDAC	REAL	ARRAY	REFS	REFS	57
4232	GRAZANG	REAL	ARRAY	REFS	REFS	57
0	HELO	REAL	ARRAY	REFS	REFS	20
0	HELOIC	REAL	ARRAY	REFS	REFS	31
256	HELOST	REAL	ARRAY	REFS	REFS	20
6	HKTIME	REAL	ARRAY	REFS	REFS	46
0	HORLIM	REAL	ARRAY	REFS	REFS	72
4126	IACOPMD	INTEGER	ARRAY	REFS	REFS	49
4202	IACDAX	INTEGER	ARRAY	REFS	REFS	49
4206	IACDAX	INTEGER	ARRAY	REFS	REFS	49
4140	IACDAX	INTEGER	ARRAY	REFS	REFS	49
6	IACDAX	INTEGER	ARRAY	REFS	REFS	80
3	IACDAX	INTEGER	ARRAY	REFS	REFS	42
363	IACDAX	INTEGER	ARRAY	REFS	REFS	20
4143	IACDAX	INTEGER	ARRAY	REFS	REFS	49
4147	IACDAX	INTEGER	ARRAY	REFS	REFS	49
4216	IACDAX	INTEGER	ARRAY	REFS	REFS	49
5	IACDAX	INTEGER	ARRAY	REFS	REFS	42
370	IACDAX	INTEGER	ARRAY	REFS	REFS	31
4234	IACDAX	INTEGER	ARRAY	REFS	REFS	57
366	IACDAX	INTEGER	ARRAY	REFS	REFS	31
3627	ICH	INTEGER	ARRAY	REFS	REFS	49
4176	ICHNDAT	INTEGER	ARRAY	REFS	REFS	49
7	ICHNDAT	INTEGER	ARRAY	REFS	REFS	42
22	ICSRDFG	INTEGER	ARRAY	REFS	REFS	42
11	ICURCNT	INTEGER	ARRAY	REFS	REFS	42
12	ICYCDS	INTEGER	ARRAY	REFS	REFS	46
3	IDATLNK	INTEGER	ARRAY	REFS	REFS	46
15	IDATUM	INTEGER	ARRAY	REFS	REFS	42
11324	IDAM	INTEGER	ARRAY	REFS	REFS	71
254	IDC2EP	INTEGER	ARRAY	REFS	REFS	31
252	IDC2EP	INTEGER	ARRAY	REFS	REFS	31
4	IDC2EP	INTEGER	ARRAY	REFS	REFS	42
4217	IDFX	INTEGER	ARRAY	REFS	REFS	49
11	IDSFIP	INTEGER	ARRAY	REFS	REFS	46
11575	IDSPACU	INTEGER	ARRAY	REFS	REFS	74
4754	IENT	INTEGER	ARRAY	REFS	REFS	65
253	IEP1C	INTEGER	ARRAY	REFS	REFS	31
255	IEP2C	INTEGER	ARRAY	REFS	REFS	31
43	IEVENT	INTEGER	ARRAY	REFS	REFS	80
21	IEXPNT	INTEGER	ARRAY	REFS	REFS	42
4742	IFAIL	INTEGER	ARRAY	REFS	REFS	57

DEFINED 122

DEFINED 100 124 126 128 142

DEFINED 2*147

DEFINED 102

PROGRAM MSPDRIV

VARIABLES	SN	TYPE	PELOCATION	REFS	99	DEFINED	136	137	139
12	IFIXCNT	INTEGER	SYMFLG	42					
11316	IFRANO	INTEGER	SYMFLG	67					
1	IFTPONT	INTEGER	SYMFLG	42					
2	IHELCOB	INTEGER	TACFLGS	46					
23	IHELCOB	INTEGER	SYMFLG	42					
4174	IHEPG	INTEGER	ARRAY	49					
5	IHKVERF	INTEGER	TACFLGS	46					
1	IHLONTL	INTEGER	TACFLGS	46					
5574	ILIB	INTEGER	SYMFLG	65					
6	IMACONT	INTEGER	SYMFLG	42					
107	INB	INTEGER	DEFAULT	31					
4021	INTGTM	INTEGER	ARRAY	49					
5575	INTYESM	INTEGER	ARRAY	65					
5601	IOCTAVE	INTEGER	ARRAY	67					
11320	ION	INTEGER	SYMFLG	71	99				
13	IONTOP	INTEGER	SYMFLG	42					
7	IONTOPF	INTEGER	TACFLGS	46					
110	IOUTB	INTEGER	DEFAULT	31					
4150	IPASOUT	INTEGER	ARRAY	49					
4	IPATCOR	INTEGER	TACFLGS	46					
1602	IPCOC	INTEGER	ARRAY	20					
4235	IPERSIS	INTEGER	SYMFLG	57					
14	IPONTER	INTEGER	SYMFLG	42					
20	IPROPOS	INTEGER	SYMFLG	42					
4212	IPSVCLR	INTEGER	ARRAY	49					
1577	IPTCOR	INTEGER	SYMFLG	23					
10	IPRCRNT	INTEGER	SYMFLG	42					
4236	IPROFILE	INTEGER	ARRAY	57					
4426	IPORDEC	INTEGER	ARRAY	57					
4465	IPDRIOX	INTEGER	SYMFLG	57					
4466	IPDRMDE	INTEGER	SYMFLG	57					
4526	IPDRSC	INTEGER	SYMFLG	57					
4467	IPDSIZE	INTEGER	SYMFLG	57					
4233	IPDSYMB	INTEGER	SYMFLG	57					
103	IRECPIL	INTEGER	DEFAULT	31					
3	IREEL	INTEGER	MAD	80					
0	IRFELCM	INTEGER	MAD	80					
2	IREPONT	INTEGER	SYMFLG	42					
4470	IRETURN	INTEGER	ARRAY	57					
4134	IRFCH	INTEGER	ARRAY	49					
24	IRNGFOG	INTEGER	SYMFLG	42					
1710	IRPTCTR	INTEGER	SYMFLG	20					
3746	IR2	INTEGER	SYMFLG	49					
365	ISCALIC	INTEGER	DEFAULT	31					
4527	ISEASTE	INTEGER	SYMFLG	57					
4025	ISELRY	INTEGER	SYMFLG	49					
4741	ISIZE	INTEGER	SYMFLG	57					
0	ISMACNT	INTEGER	SYMFLG	42					
16	ISNSFOS	INTEGER	SYMFLG	42					
3641	ISONDAT	INTEGER	SYMFLG	49					
4132	ISONCLN	INTEGER	SYMFLG	49					
0	ISILAT1	INTEGER	LATLONG	83					
1	ISLAT2	INTEGER	LATLONG	83					
2	ISLAT3	INTEGER	LATLONG	83					

VARIABLES	SN	TYPE	RELOCATION	DEFINITION	224	216	213	216
6	ISLAY4	INTEGER	LATLNG	139				
3	ISLON1	INTEGER	LATLNG	130				
4	ISLON2	INTEGER	LATLNG	131				
5	ISLON3	INTEGER	LATLNG	132				
7	ISLON4	INTEGER	LATLNG	133				
16362	ITACVAL	INTEGER	/					
1571	ITGNT	INTEGER	/					
256	ITGOET	INTEGER	DEFAULT					
4530	ITGNT	INTEGER	/					
4011	ITHR	INTEGER	/					
17	ITORDS	INTEGER	/					
5430	ITRKFIL	INTEGER	SYNFLG					
370	ITUNE	INTEGER	/					
11153	IVERN	INTEGER	/					
25	IWFTF	INTEGER	SYNFLG					
2545	J	INTEGER	/					
3	JABUFF	INTEGER	/					
1572	JKRUN	INTEGER	DEFAULT					
1600	JPLOT	INTEGER	/					
105	JPRINT	INTEGER	/					
4531	JRDR	INTEGER	DEFAULT					
1601	JRESFT	INTEGER	/					
1573	JSUB	INTEGER	/					
4154	JTRCE	INTEGER	/					
2543	K	INTEGER	/					
12354	KATOBUF	INTEGER	/					
2400	KEND	INTEGER	/					
2544	KOLD	INTEGER	/					
11152	KPSVTHP	INTEGER	/					
4640	KRORCYC	INTEGER	/					
14354	KSOBUF	INTEGER	ARRAY					
11323	KVALFTP	INTEGER	/					
4006	LL	INTEGER	/					
1574	MADAUTO	INTEGER	ARRAY					
11572	MADDISP	INTEGER	ARRAY					
7	MADFLG	INTEGER	MAD					
4026	MADTRF	INTEGER	ARRAY					

VARIABLES SN TYPE RELOCATION

4133	MAXBUOY	INTEGER	/	/	49	REFS
366	MINUTES	INTEGER	/	/	20	REFS
1713	MISSION	INTEGER	/	/	20	REFS
367	MODESIM	INTEGER	DEFAULT	/	31	REFS
13	MSKALPT	INTEGER	TACFLGS	/	46	REFS
16355	MSPRIT	INTEGER	/	/	74	REFS
11431	MSPIBUB	INTEGER	/	/	74	REFS
			ARRAY		145	DEFINED
					92	DEFINED
					236	DEFINED
					272	DEFINED
					313	DEFINED
					167	185
					254	260
					278	289
					320	
11501	MSPOBUB	INTEGER	/	/	74	REFS
11522	MSPTBUB	INTEGER	/	/	74	REFS
11704	MUXABUF	INTEGER	/	/	74	REFS
16356	MUXBIT	INTEGER	/	/	74	REFS
11601	MUXIRUF	INTEGER	/	/	74	REFS
11653	MUXOBUB	INTEGER	/	/	74	REFS
12304	MUXTBUB	INTEGER	/	/	74	REFS
4642	M3	INTEGER	/	/	57	REFS
314	NAV	REAL	/	/	20	REFS
111	NBC	INTEGER	DEFAULT	/	31	REFS
233	NPCA	INTEGER	DEFAULT	/	31	REFS
247	NBCM	INTEGER	DEFAULT	/	31	REFS
112	NBSIZ	INTEGER	DEFAULT	/	31	REFS
250	NBUFFWD	INTEGER	DEFAULT	/	31	REFS
105	NB1	INTEGER	DEFAULT	/	31	REFS
2	NCOSE	INTEGER	MAD	/	80	REFS
365	NHOURS	INTEGER	/	/	20	REFS
16354	NIUBIT	INTEGER	/	/	74	REFS
11326	NIUBUF	INTEGER	/	/	74	REFS
11340	NIUBUB	INTEGER	/	/	74	REFS
11361	NIUBUF	INTEGER	/	/	74	REFS
5667	NOIS	INTEGER	/	/	67	REFS
4015	NOTCH	INTEGER	/	/	49	REFS
4532	NDP	INTEGER	/	/	57	REFS
3633	NPNG	INTEGER	/	/	49	REFS
10	NRPHCOR	INTEGER	TACFLGS	/	46	REFS
3702	NRNGCNT	INTEGER	/	/	49	REFS
367	NSECS	INTEGER	/	/	20	REFS
5606	NUMBIN	INTEGER	/	/	67	REFS
51	OWNSIC	REAL	DEFAULT	/	31	REFS
4533	PD	REAL	/	/	57	REFS
4534	PHIR	REAL	/	/	57	REFS
1711	PLOTXP	REAL	/	/	20	REFS
1712	PLOTYZR	REAL	/	/	20	REFS
2277	POINTER	REAL	/	/	38	REFS
2274	PREOPOS	REAL	/	/	38	REFS
0	PRINTON	LOGICAL	MSPOCOM	/	17	REFS
4627	RADCROS	REAL	/	/	57	REFS
4535	RNOISE	REAL	/	/	57	REFS
4536	RDRNGNM	REAL	/	/	57	REFS
1714	REFMLL	REAL	/	/	38	REFS
253	REFTP	REAL	/	/	20	REFS
2173	RNGCIR	REAL	/	/	38	REFS
1	ROLD	REAL	MAD	/	80	REFS
					18	DEFINED
					96	212
					223	

VARIABLES SN TYPE RELOCATION

3706 R1	REAL	ARRAY	49	REFS
11150 SANGERR	REAL	ARRAY	67	REFS
113 SCT	REAL	ARRAY	31	REFS
0 SELFSTY INTEGER	REAL	DEFAULT	85	REFS
2243 SENSOR	REAL	SELECT	220	REFS
4537 SF	REAL	ARRAY	38	REFS
232 SHIPCOM	REAL	ARRAY	57	REFS
174 SHIPNAV	REAL	ARRAY	20	REFS
2404 SHPTRKU	REAL	ARRAY	20	REFS
5647 SIG	REAL	ARRAY	38	REFS
4544 SIGMA	REAL	ARRAY	67	REFS
4545 SIGMAO	REAL	ARRAY	57	REFS
5707 SIGNAL	REAL	ARRAY	57	REFS
5627 SINB	REAL	ARRAY	67	REFS
7707 SIND	REAL	ARRAY	67	REFS
4577 SNPHIR	REAL	ARRAY	57	REFS
67 SONOIC	REAL	DEFAULT	31	REFS
16363 STKATO	REAL	ARRAY	74	REFS
16365 STKSO	REAL	ARRAY	74	REFS
16361 TACBEAR	REAL	ARRAY	74	REFS
16360 TACRANG	REAL	ARRAY	74	REFS
5 TARGIC	REAL	ARRAY	31	REFS
30 TARGNAV	REAL	ARRAY	20	REFS
354 TIME	REAL	ARRAY	20	REFS
1707 TINTICK	REAL	ARRAY	20	REFS
2266 TOPPED	REAL	ARRAY	38	REFS
2311 TRACKS	REAL	ARRAY	38	REFS
2405 TRACKSHIP	REAL	ARRAY	38	REFS
0 TRKTIME	REAL	YACFLGS	45	REFS
4641 TRI2	REAL	ARRAY	57	REFS
2377 WEAFIP	REAL	ARRAY	33	REFS
251 WHEN	REAL	DEFAULT	31	REFS
361 WIND	REAL	ARRAY	20	REFS
3637 XBUOYDR	REAL	ARRAY	49	REFS
4667 XFA	REAL	ARRAY	57	REFS
4546 XINLSEA	REAL	ARRAY	57	REFS
2063 XMADCNTR	REAL	ARRAY	38	REFS
2306 XONTOP	REAL	ARRAY	38	REFS
4572 XRCNTR	REAL	ARRAY	57	REFS
4570 XSN	REAL	ARRAY	57	REFS
4571 YBPD	REAL	ARRAY	57	REFS
3640 YBUOYDR	REAL	ARRAY	49	REFS
4714 YFA	REAL	ARRAY	57	REFS
4557 VINLSEA	REAL	ARRAY	57	REFS
4573 YRCNTR	REAL	ARRAY	57	REFS

DEFINED

106

FILE NAMES MODE FMT

0 OUTPUT

WRITES

229

EXTERNALS ADVANCE

TYPE ARGS

REFERENCES

157	162	173	182	198	205	224
250	286	294	306	318	324	332
177	186	191	209	234	237	240
261	264	267	279	279	276	279
299	302	311	314	321		

EXTERNALS
ASIN
XMSR

TYPE ARGV REFERENCES
REAL 1 LIBRARY 119
2 153
284

169 178 194 201 210 219 241 246
202 304 316 322 329 337

INLINE FUNCTIONS
OR

NO TYPE ARGV INTRIN DEF LINE REFERENCES
375

STATEMENT LABELS

DEF LINE REFERENCES

0 50 93
2401 100 FMT 151
2407 200 FMT 152
2414 210 FMT 157
2421 300 FMT 163
2426 400 FMT 174
0 410 183
2433 500 FMT 182
2437 600 FMT 192
2172 610 199
215 206
221 205
220 215
220 220
225 224
230 229
244 243
251 250
287 286
295 294
307 306
325 324
333 332

INACTIVE

2445 700 FMT
2452 800 FMT
2460 900 FMT
2464 1000 FMT
2472 1100 FMT
2477 1110 FMT
2504 1120 FMT
2511 1200 FMT
2515 1300 FMT

318

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES
2030 50 K 90 93 28 INSTACK
2140 410 * J 198 192 78 EXT REFS

COMMON BLOCKS LENGTH 1
MSPOCCM 7415

MEMBERS - BIAS NAME(LENGTH)

0 POINTCN(1)

0 HELD (24)

124 SHIPNAV(30)

171 REFID (3)

224 FPNADV (12)

241 WIND (2)

246 MINUTES(1)

249 JARUFF (640)

891 JSUB (1)

896 JPLOTT (1)

865 CX (1)

938 IRPTOTR(1)

971 MISSION(1)

1016 DATUM (5)

1375 XMACNT(12)

1163 CURSOR (24)

1206 TORREF (6)

1217 EXPDIR (5)

1279 WEATF (5)

1303 RUOVRN (320)

24 TARGNAV(88)

154 SHIPCOM(9)

174 HELCST (30)

236 TIME (1)

243 JAUTMAN(2)

247 NSECS (1)

889 ITGNT (1)

892 MADAUTO(3)

897 JPRESET (1)

866 CV (1)

969 FLOYXZ(1)

972 REFMLL (32)

1021 RIFAR (30)

1087 CONTAC (60)

1187 SENSHP(1)

1212 PPECPDS(3)

1222 XONTOP (3)

1284 SHPTRXU(1)

1623 RUOYNV(320)

112 CCNAV (12)

163 CONVOY (18)

204 NAV (20)

237 FTPE (4)

245 NHCUPS (1)

248 ITUNE (1)

890 JCHN (1)

895 IETCORP(1)

898 IETDEC (67)

867 TIMITCK(1)

970 PLOTY7R(1)

1004 AVOREF (12)

1061 CPECC (24)

1147 RNCJIF (16)

1188 FIXDFS (18)

1215 PCINTFP(2)

1225 TRACKS (54)

1295 TRCKSPP(18)

1943 ICH (4)

COMMON BLOCKS LENGTH MEMBERS - RIAS NAME(LENGTH)

1947	NPNG	(4)	1951	XPUYCP(1)	1952	YPUYCP(1)	
1953	ISONDAT(32)		1995	DELVS	(1)	1986	NSNGCNT(4)
1990	R1	(32)	2022	IP2	(32)	2054	LL
2055	ANS	(1)	2056	C	(1)	2057	THP
2061	NOTCH	(4)	2065	INTGTIM(4)		2069	TSELY(1)
2070	MASTRF	(64)	2134	IAGPMQ(4)		2138	ISONCLN(1)
2139	MAXRUCY(1)		2140	IFCH	(4)	2144	IACSYS(1)
2145	CASSTIM(1)		2146	CASSPER(1)		2147	TAUTC
2151	IATUTCH(1)		2152	JFAOUT(4)		2156	JPOCE
2172	IHERG	(2)	2174	ICHNDAT(4)		2178	IACCAIX(4)
2182	IACCAIV(4)		2186	IPSVCLR(4)		2190	IOVCNT(1)
2191	IDFX	(4)	2195	APPRIME(1)		2196	ASCNLM(1)
2197	CLUTTER(1)		2198	DELYI	(1)	2199	DELYI
2200	DELZI	(1)	2201	OLYPTHP(1)		2202	GRA7ANG(1)
2203	IPDSYMB(1)		2204	IOFAR	(1)	2205	IPERSIS(1)
2206	IRORHDE(120)		2326	IPCRDEC(31)		2367	IRDFICX(1)
2358	IRORHDE(1)		2359	IFOSI7E(1)		2360	IRETURN(30)
2390	IPDRSC	(1)	2391	YSEASTE(1)		2392	ITGTN
2393	JROF	(1)	2394	NPO	(1)	2395	PD
2396	PHIR	(1)	2397	RCNOISE(1)		2398	RENGNM(1)
2399	SF	(5)	2404	SIGMA	(1)	2405	SIGMAC
2406	XINLSEA(9)		2415	VINLSEA(9)		2424	XSN
2425	VRPD	(1)	2426	XEDCNTR(1)		2427	VRDCNTR(1)
2428	DCL13	(1)	2429	DCL23	(1)	2430	DCL33
2431	SNPHIR	(1)	2432	OSPHIR	(1)	2433	CSXLDZI(1)
2434	GLMDAC(21)		2455	PACROS(9)		2464	KRRCYC(1)
2465	TP12	(1)	2466	M3	(21)	2487	XFA
2508	YFA	(21)	2529	ISIZE	(1)	2530	IFAIL
2539	FAPNGLM(1)		2540	IFMIT	(300)	2840	ITPKFIL(100)
2940	ILIR	(1)	2941	INTVESH(4)		2945	TCTAVE(4)
2949	AKFZ	(1)	2950	NUMBIN	(1)	2951	COSR
2967	SING	(16)	2983	SIG	(16)	2999	NOIS
3015	SIGNAL	(512)	3527	COSN	(512)	4039	SIND
4551	ANAFZ	(128)	4679	FI	(32)	4711	ARU
4712	SANGER(1)		4713	OVANCE(1)		4714	KSVTHS(1)
4715	IVERN	(64)	4779	FPLOG	(32)	4811	ALGAKF(1)
4812	ALGAKFV(1)		4813	ALGTWO	(1)	4814	IFRAND
4915	AKFV	(1)	4916	ION	(1)	4917	GAMMAS
4918	BERFIP	(1)	4919	KUALFIP(1)		4920	ICAH
4922	NIURUF(10)		4932	NIUCRUF(17)		4949	NIUTRUF(40)
4939	MSPIBUF(40)		4929	MSPORUF(17)		4946	MSPTRUF(40)
4936	MADDISP(3)		4989	INSPACU(4)		4993	MUXTRUF(50)
5043	MUXORUF(17)		5060	MUXABUF(256)		5316	MUXTRUF(40)
5356	KATORUF(1024)		6380	KSORUF	(1024)	7404	NIUBIT
7405	MSPRIT	(1)	7406	MUXRIT	(2)	7408	TACPRANG(1)
7409	TACREAR(1)		7410	ITACVAL(1)		7411	SIRKATC
7413	STKSC	(2)					
0	HELIC	(5)	5	TARGIC	(36)	41	CWNSIC
55	SONCIC	(12)	67	IRECFIL(1)		68	JKRUN
69	JPRINT	(1)	70	NPI	(1)	71	JAR
72	IOUB	(1)	73	NBC	(1)	74	NBSIZ
75	SCY	(10)	155	NPCA	(12)	167	NECM
168	NBUFFW(1)		169	WHEN	(1)	170	IDECERQ(1)
171	IERIC	(1)	172	IOCRERR(1)		173	IFR2C

DEFAULT249

DEFAULT 249

CNC 6500 FYN V3.0-P180 OPT=1 7/10/12. 15.45.22.

PROGRAM MSFORIV

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

SYNFLG	22	174 ITGET (1) 177 QUOVIC (54) 246 ICIRST (1) 0 ISMKONT (1) 3 IATLNT (1) 6 IMACONT (1) 9 ICURCNT (1) 12 IPONTER (1) 15 ITORDS (1) 18 ICSPDFG (1) 21 IMPTP (1) 0 TRKTIME (1) 3 IDATLAK (1) 6 HKTIME (1) 9 INDSEIP (1) 0 HODLIM (1) 0 AMCONS (16) 0 TREFLCH (1) 3 IREEL (1) 6 IMAD (1) 35 IEVENT (1) 0 ISLAI1 (1) 3 ISLON1 (1) 6 ISLAY4 (1) 0 SELFTST (1)
TACFLGS	12	175 DELXVIC (1) 241 DATHMIC (4) 247 MODESIM (1) 1 IFIFCNT (1) 4 IOFCNT (1) 7 ICONCNT (1) 13 IFIXCNT (1) 13 IDATUM (1) 16 IPREFCS (1) 19 IHELCUR (1) 1 IHLONTL (1) 4 IPATCOR (1) 7 IONTOPF (1) 10 ICYCDS (1)
HORIZN CONST MAD	1 16 39	1 POLD (1) 4 AMAD (1) 7 MADFLG (1) 36 EVENTH (1) 1 ISLAT2 (1) 4 ISLON2 (1) 7 ISLON4 (1)
LATLONG	8	2 NCOSF (1) 5 GAIN (1) 8 AMACDET (27) 37 EVENT (2) 2 ISLAT3 (1) 5 ISLON3 (1)
SELFT	1	

STATISTICS

PROGRAM LENGTH	5358	342
BUFFER LENGTH	20228	1042
COMMON LENGTH	5358	349
BLANK COMMON	163678	7415

BLOCK DATA

CDC 6600 FTN V3.0-P380 CPT=1 76/06/12. 15.45.22.

PAGE

1

BLOCK DATA
INTEGER ESTATUS
COMMON /DATA14/ ESTATUS
COMMON/MAD/IREELCM,ROLLC,NCOSF,IOEEL,
X AMAD,GAIN,IAMAD,MADFLG,AMADOFF(3,9),IEVENT
X ,EVENTM,EVENT(2)
DATA ESTATUS /0/
DATA IREEL / 600 /
END

MSPC 284
MSPC 285
MSPC 286
MSPC 287
MSPC 288
MSPC 289
MSPC 290
MSPC 291
MSPC 292

5

VARIABLES	SN	TYPE	RELOCATION
4 AMAD	REAL	MAD	REFS
10 AMADDET	REAL	ARRAY	REFS
0 ESTATUS	INTEGER	DATA14	REFS
45 EVENT	REAL	MAD	REFS
44 EVENTIM	REAL	MAD	REFS
5 GAIN	REAL	MAD	REFS
6 IAMAD	INTEGER	MAD	REFS
43 IEVENT	INTEGER	MAD	REFS
3 IREEL	INTEGER	MAD	REFS
0 IREELCH	INTEGER	MAD	REFS
7 MADFLG	INTEGER	MAD	REFS
2 NCLOSE	INTEGER	MAD	REFS
1 ROLD	REAL	MAD	REFS

REFS
REFS
REFS
REFS
REFS
REFS
REFS
REFS
REFS
REFS
REFS
REFS

4
4
2
4
4
4
4
4
4
4
4
4

3 DEFINED 7

OFFINED 8

COMMON BLOCKS	LENGTH	MEMBERS - BIAS NAME(LENGTH)
DATA14	1	0 ESTATUS(1)
MAD	39	0 IREELCH(1)
		3 IREEL (1)
		6 IAMAD (1)
		35 IEVENT (1)
		36 EVENTIM(1)
		7 MADFLG (1)
		8 AMADDET(27)
		2 NCLOSE (1)
		5 GAIN (1)
		37 EVENT (12)

1 ROLD (1)
4 AMAD (1)
7 MADFLG (1)
36 EVENTIM(1)
2 NCLOSE (1)
5 GAIN (1)
8 AMADDET(27)
37 EVENT (12)

STATISTICS

PROGRAM LENGTH	38	0
COMMON LENGTH	508	40

```
5  C-----
C SUBROUTINE XNSP(IN,LWA)
C
C ABSTRACT
C THIS ROUTINE PERFORMS THREE FUNCTIONS
C
C 1. IT PRINTS CONTENTS OF CURRENT INPUT BUFFER
C 2. IT EXECUTES THE MSP MODULE
C 3. IT PRINTS THE CONTENTS OF THE RESULTANT OUTPUT BUFFER
C - AND RESETS THE PP BIT TO SIGNIFY ACCEPTANCE.
C
C IN - POINTER TO FIRST WORD OF INPUT
C
C LWA - POINTER TO LAST WORD ADDRESS OF INPUT BUFFER
C (NOTE - INPUT BUFFER IS CIRCULAR TERMINATED BY ZERO WORD)
C
C CODING HISTORY
C 1. PROGRAMMED--ALEX PODLECKI 11/07/77
C
C END OF ABSTRACT
C
C
C SUBROUTINE XNSP(KIN, KLWA)
C LOGICAL POINTON
C INTEGER STATUS, CPBIT, PPBIT, XOR, ERRWORD
C INTEGER SPLIT
C
C-----NAVIGATION PARAMETERS
C COMMON/HEL0(24),TARNAV(4,22),CONNAV(4,3),SHIPNAV(2,15),
C SHIPCO(3,3),CONVOY(4,2),PEFIF(3),HELOST(2,15),NAV(20)
C ,FTPNV(4,3),TIME
C ,FTPE(4),WIND(2),TAUTMAD(2)
C ,NHOURS,MINUTES,NSECS
C ,ITUNE,JABUFF(64,5,2)
C ,ITGCNT,JOHN,JSUB,MADAUTO(3)
C ,IPICORR,JPLOT
C ,JRESET,IPCODE(67),CX,CY
C ,IIMTICK,IRPTOTR,PLCTXR,PLCTYZR,PLCTYZR,MISSION
C
C PEAL NAV
C COMMON/DEFAULT/HEL0(5),TARGIC(9,4),OWNSIC(7,2),SCNOIC(3,4),
C IRECFIL,JRUN,JPRINT,N91,IND,IOUTB,NBC,NBSIZ,SC(10,8),
C N3CA(12),NBCN,NBUFFND,WHEN,
C IDEERR,IESIC,INC2ERR,IEP2C,
C ITGDET,DELXTIC,DELYTIC,
C RUDYIC(2,32),DATUMIC(4),ISCALIC,ICFIRST,MODESIM,ICDTMCS
C
C-----TACTICAL DISPLAY PARAMETERS
C COMMON/REFMLL(8,4),ATOCREF(3,4),DATUM(5),OTFAR(5,6)
C ,CSROCR(4,6),XMADONT(4,3),CCNYAC (10,8),ENGCTP(4,4),CURSOR(16,4)
C ,SENSOR,FXDES(3,6),TOPPE(3,2),PREPOS(3),POINTER(2),EXPCIR(5)
C ,XONTOP(3),TRACKS(3,3,6),KEAFIP(5),SHYRKU,TPCKSHR(3,6)
C COMMON/SYMLGATISMKCNT,ITPCNT,IREFCNT,TAYLCNT,TDFRCNT
C ,ICASCNT,IMADONT,ICNCNT,IPCCFNT,ICUPCNT,IFXCNT,IONTCF
C ,TPCNT,IDATUM,ISNSFDS,ITORDS,IPROPOS,IEXPONT,ICSRFCG
```

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X , IMELCUP, IIRNGCOC, IMPTF
COMMON /TACFLGS/TKTIME, IHLNLT, IHELCOE, IDATLNC
X , IPAICOR, IHKVEF, HKTIME, IONICPF, NEFHCOE, IJSEFP, IJYCOE, MSKALPT
C-----ACUSTIC MODEL TABLES AND PARAMETERS
COMMON /BUOYPRM(10,32), BUCYNV(10,32), ICH(4), NPMG(4), XBLOYCR
X , YBUOYOR, ISONAT(32), DELTS, NRNGCNT(4), S1(32), ISE2(32), LL
X , ANS, C, ITHR(4), NOTCH(4), INTGTM(4), ISELBY
X , MASTOF(32,2), IAGPMD(4), ISCNCL, MAXBUOY, IRFCH(4)
X , IACSTS, CASSITN, CASSPER, IAUIC(4), IAUICCH
X , IPASCU(4), JPECE(2,2,4), ITHP(2), ICHNGAT(4), IACQATFX(4)
X , IACQATY(4), IPSVCL(4), IBCVNT, IDFX(4)
C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPRIME, A7SONLM, CLUTTER, DELXI, DELYI, DELZI, DLTDIR,
* GRAZANG, IROSYMB, IFFA9, IFFSIS, IROFILE(120), IRRDEC(31), IECRIMX,
X , IORMDE, IROSIZE, IRETURN(30), IROSC, ISEASIF, IGTIN,
X , JROF, NPD, PO, PHIL, EONISE, PDNGNM, SP(5), SIGMA, SIGMAC,
* XINLSEA(9), VINLSEA(9), XSN, YRPO, XROGNT, YROGNT, DCL13, DCL23,
* DCL33, SNPHIP, CSPHIS, CXLDZI, GMLMDAC(21), RADGROS(9)
X , KRCRCYC, TRI2, M3(21), XFA(21), ISIZE, IFAIL(9), FARNGLM
C-----ESP TABLES
COMMON IEMIT(100,3), ITRKFIL(100), ILI9, INTVISM(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON /IOCTAVE(4), AKER, NUPAIN, COSP(16), SINP(16), SIG(16), NOIS(16),
X SIGNAL(16,8,4), COSD(16,8,4), SIND(16,8,4), ANAR(16,8), FI(8,4),
X AOU, SANGERR, CVRANGE, KPSVTR,
X IVERN(2,8,4), FRLCG(8,4), ALGAKFR, ALGAKFV, ALGTHO, IFRANC, AKFRV
COMMON // ION, GAMMAS, BERFTE, KVALFTF, IDAW(2)
COMMON /HOR17N/ HORLIM
COMMON /CONST/ AMCCNS(16)
COMMON // NIURUF(10), NIUCRUF(17), NIUTBUF(40),
* MSPIRUF(40), MSPORUF(17), MSPIBUF(40)
* , MADDIS(3), IDSPACU(4), MUXIBUF(50), MUXOBU(17)
* , MUXARUF(256), MUXIBUF(40), KATORUF(1024), KSOBU(1024)
* , NIUBIT, MSPBIT, MUXBIT(2)
* , TACRANG, TACBEAR, ITACVAL, STKAT0(2), STKS0(2)
COMMON /DATA14/ ESTATUS
COMMON /NSPDCOM/ PRINTCN
COMMON /RUFFLAG/IRFUL(13), IRFUL2(13)
COMMON /ERRFLAG/IRFERR(3)
COMMON I, ERMOPD
DIMENSION SPLIT(17)
K = KIN
C-----
C PRINT INPUT BUFFER
C-----
C DOWHILE SOMETHING IN INPUT BUFFER
100 CONTINUE
IF (MSPIBUF(K) .EQ. 0) GC TO 200
EXPAND INPUT WORD
CALL EXPAND( 16, MSPIBUF(K), SPLIT)
PRINT INPUT WORD BIT-BY-BIT
PRINT 110, K, (SPLIT(J), J=1,16)
FCR*AT(*0 INPUT BUFFER WCR[*],13,* = *,16(1X,11))
CALL ADVANCE( K, KLWA)
GC TO 100
110
105
100
95
90
85
80
75
70
65
60

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BLANK 28
BLANK 29
BLANK 30
BLANK 31
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BLANK 58
BLANK 59
BLANK 60
BLANK 61
BLANK 62
MSPD 323
MSPD 324
MSPD 325
MSPD 326
MSPD 327
MSPD 328
MSPD 329
MSPD 330
MSPD 331
MSPD 332
MSPD 333
MSPD 334
MSPD 335
MSPD 336
MSPD 337
MSPD 338
MSPD 339
MSPD 340
MSPD 341
MSPD 342

```



```

115      200 CONTINUE
C      ENDD
C      IF EMPTY INPUT BUFFER AND PRINT MESSAGES SELECTED
C      IF ( K.NE. KIN.OR. .NOT. PRINTON ) GO TO 220
C      THEN
C      PRINT INFORMATIVE MESSAGE
C      PRINT 210
C      210      FORMAT('EMPTY INPUT BUFFER*')
C      ELSE
C      OMIT MESSAGE
C      220 CONTINUE
C      ENDIF.
C-----
C      EXECUTE THE MSP MODULE
C-----
C-----
C      CALL MSP
C-----
C      PRINT OUTPUT BUFFER
C-----
130      PRINT 230,IBFUL1(8), IFFUL2(8)
C      230      FORMAT('GIBFUL1(8) = *I1,X*,IFFUL2(8) = *I1,X*
C      CPBIT = AND( 1, SHIFT( IDAN11), 60-8))
C      PPBIT = AND( 1, SHIFT( ICAN2), 60-8))
C      IF OUTPUT BUFFER EMPTY
C      IF ( CPBIT .NE. PPBIT ) GO TO 320
C      THEN
C      IF PRINT MESSAGES SELECTED
C      IF ( .NOT. PRINTON ) GO TO 310
C      THEN
C      PRINT INFORMATIVE MESSAGE
C      PRINT 300
C      300      FORMAT('EMPTY OUTPUT BUFFER*')
C      ELSE
C      OMIT MESSAGE
C      310      CONTINUE
C      ENDIF
C      GO TO 400
C      ELSE
C      320 CONTINUE
C      PRINT HEADER WORD
C      PRINT 330, MSPORUF(1)
C      330      FORMAT('OUTPUT BUFFER*/*HEADER WORD = *,020)
C      KEND = AND( 3777R, SHIFT(MSPORUF(1),60-13))
C      DO WHILE SOMETHING IN OUTPUT
C      DO 360 K=1,KEND
C      EXPAND OUTPUT WORD
C      CALL EXPAND( 17, MSPTRUF(K), SPLIT)
C      PRINT OUTPUT WORD BIT-BY-BIT
C      K1 = K + 1
C      PRINT 350, K1, (SPLIT(J),J=1,17)
C      350      FORMAT('OUTPUT WORD*,13,* = *,1X,I1,2X,16(1X,I1))
C      360      CONTINUE
C      ENDD
C-----
C      SET PP BIT
C-----
165

```

MSPD 342
MSPD 344
MSPD 346
MSPD 348
MSPD 350
MSPD 352
MSPD 354
MSPD 356
MSPD 358
MSPD 360
MSPD 362
MSPD 364
MSPD 366
MSPD 368
MSPD 370
MSPD 372
MSPD 374
MSPD 376
MSPD 378
MSPD 380
MSPD 382
MSPD 384
MSPD 386
MSPD 388
MSPD 390
MSPD 392
MSPD 394
MSPD 396
MSPD 398
MSPD 400

```
C-----MSPC 398
      IDAW(2) = XOR( IDAW(2), 2030)MSPC 399
      400 CONTINUEMSPC 400
      C  ENDMSPC 401
      C  IF ERROR BIT SET OR PRINT MESSAGES SELECTEDMSPC 402
      C  IF ( STATUS .EQ. 0 .AND. .NOT. PRINTON ) GO TO 420MSPC 403
      C  THENMSPC 404
      C-----MSPC 405
      C  PRINT ERROR STATUSMSPC 406
      C-----MSPC 407
      C  CALL EXPAND( 6, ESTATUS, SPLIT)MSPC 408
      C  PRINT 410, (SPLIT(J),J=1,6)MSPC 409
      C  FORMAT(*0ERROR STATUS =*,10(I1,I1))MSPC 410
      C  410  ELSEMSPC 411
      C  OMIT MESSAGEMSPC 412
      C  420 CONTINUEMSPC 413
      C  ENDMSPC 414
      C  IF ERROR WORD BIT IS SETMSPC 415
      C  IF (IXFRERR(1)+IXFRERR(2))=10,540,510MSPC 416
      C  THENMSPC 417
      C  PRINT THE ERROR WCPMSPC 418
      C  510  PRINT 520,(IXFRERR(I),I=1,2)MSPC 419
      C  520  FORMAT(*JIXFRERR(*,I1,*) = *,020)MSPC 420
      C  ELSEMSPC 421
      C  DO NOT PRINT THE ERROR WCPMSPC 422
      C  540 CONTINUEMSPC 423
      C  ENDMSPC 424
      C-----MSPC 425
      C  END OF ROUTINEMSPC 426
      C-----MSPC 427
      C  RETURNMSPC 428
      C  ENDMSPC 429
```

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES
2 XMSB	26	196
VARIABLES	SN	TYPE
4223 ACPRIME	REAL	RELOCATION
5605 AKER	REAL	CONST
11317 AKERV	REAL	CONST
11313 ALGAKFR	REAL	CONST
11314 ALGAKFV	REAL	CONST
11315 ALCTWO	REAL	CONST
0 AMCONS	REAL	CONST
10707 ANARP	REAL	CONST
4037 ANS	REAL	CONST
11147 AOU	REAL	CONST
1754 ATOREF	REAL	CONST
4224 ATZCNLM	REAL	CONST
11322 BERFTP	REAL	CONST
251 BUOYIC	REAL	CONST
3127 BUOYNV	REAL	CONST
2427 BUOYRW	REAL	CONST
4010 C	REAL	CONST
4142 CASSPER	REAL	CONST
4141 CASSTIM	REAL	CONST
4225 CLUTTER	REAL	CONST
160 CONNAV	REAL	CONST
2377 CONTAG	REAL	CONST
243 CONVOY	REAL	CONST
5687 COSB	REAL	CONST
6727 COSD	REAL	CONST
233 CPBIT	INTEGER	CONST
4600 CSPHIP	REAL	CONST
2333 CSROCR	REAL	CONST
4631 CSXLDZI	REAL	CONST
2213 CURSOR	REAL	CONST
11151 CVRANGE	REAL	CONST
1705 CX	REAL	CONST
1706 CY	REAL	CONST
1770 DATUM	REAL	CONST
351 DATUMIC	REAL	CONST
4374 DCL13	REAL	CONST
4575 DCL23	REAL	CONST
4576 DCL33	REAL	CONST
3701 DELTS	REAL	CONST
4226 DELXI	REAL	CONST
257 DELXTIC	REAL	CONST
4227 DELYI	REAL	CONST
260 DELYTIC	REAL	CONST
4230 DELZI	REAL	CONST
1775 DIFAR	REAL	CONST
4231 DLPHPH	REAL	CONST
16370 ERMWORD	INTEGER	CONST
0 ESTATOS	INTEGER	CONST

VARIABLES	SN	TYPE	RELOCATION	REFS
2	IFELCOR	INTEGER	TACFLGS	57
23	IFELCUP	INTEGER	SYMFLG	53
4174	IFPG	INTEGER	ARRAY	60
5	IFKVERF	INTEGER	TACFLGS	57
1	IFLONTL	INTEGER	TACFLGS	57
5574	ILIB	INTEGER	REFS	76
6	IFADONT	INTEGER	SYMFLG	53
107	INB	INTEGER	DEFAULT	42
4021	INTGIM	INTEGER	REFS	60
5575	INWESM	INTEGER	REFS	76
5601	IOCTAVE	INTEGER	REFS	76
11320	ION	INTEGER	REFS	76
13	IONTOP	INTEGER	REFS	82
7	IONTOPF	INTEGER	SYMFLG	53
110	IOUIB	INTEGER	TACFLGS	57
4150	IPASOUT	INTEGER	DEFAULT	42
4	IPATCOR	INTEGER	REFS	60
1602	IPCDEC	INTEGER	TACFLGS	57
4235	IPERSIS	INTEGER	REFS	31
14	IPONTER	INTEGER	REFS	68
20	IPROPOS	INTEGER	SYMFLG	53
4212	IPSVCLR	INTEGER	SYMFLG	53
1577	IPTCORR	INTEGER	REFS	60
10	IPRCORNT	INTEGER	REFS	31
4236	IRDFILE	INTEGER	SYMFLG	57
4426	IRDRDEC	INTEGER	REFS	68
4465	IRDRINX	INTEGER	REFS	68
4460	IRDRMOE	INTEGER	REFS	63
4526	IRDRSC	INTEGER	REFS	69
4467	IRDSIZE	INTEGER	REFS	68
4233	IRDSYMB	INTEGER	REFS	63
103	IRECFIL	INTEGER	REFS	69
2	IREFCNT	INTEGER	DEFAULT	42
4470	IRETURN	INTEGER	SYMFLG	53
4134	IRFCH	INTEGER	REFS	68
24	IRNGFDG	INTEGER	REFS	60
1710	IRPTOIR	INTEGER	SYMFLG	53
3746	IR2	INTEGER	REFS	31
365	ISCALIC	INTEGER	REFS	60
4527	ISEASTE	INTEGER	REFS	42
4025	ISELBY	INTEGER	REFS	69
4741	ISIZE	INTEGER	REFS	60
0	ISMKCNT	INTEGER	REFS	69
16	ISNSFOS	INTEGER	SYMFLG	53
3641	ISONDAT	INTEGER	SYMFLG	53
4132	ISCHCLN	INTEGER	REFS	60
16362	ITACVAL	INTEGER	REFS	60
1571	ITGONT	INTEGER	REFS	85
256	ITGDET	INTEGER	DEFAULT	31
4530	ITGIN	INTEGER	REFS	42
4011	ITHR	INTEGER	REFS	68
17	ITGRDS	INTEGER	REFS	60
5430	ITRPFIL	INTEGER	SYMFLG	53
370	ITUNE	INTEGER	REFS	76
			REFS	31

VARIABLES	SN	TYPE	RELOCATION	REFS	2*184	187	177	107	160	177
11153	IVERN	INTEGER	/ /	REFS						
25	IMFTR	INTEGER	SYNPLG	REFS						
0	IXFRERR	INTEGER	ERRFLAG	REFS						
236	J	INTEGER		REFS	2*184	187	177	107	160	177
371	JARUFF	INTEGER	/ /	REFS						
104	JRUN	INTEGER	DEFAULT	REFS						
1572	JOHN	INTEGER	/ /	REFS						
1600	JPILCT	INTEGER	/ /	REFS						
105	JPRINT	INTEGER	DEFAULT	REFS						
4531	JROR	INTEGER	/ /	REFS						
1601	JRESET	INTEGER	/ /	REFS						
1573	JSU9	INTEGER	/ /	REFS						
4154	JTRCE	INTEGER	/ /	REFS						
235	K	INTEGER		REFS	105	107	106	114	157	159
12354	KATORUF	INTEGER	/ /	DEFINED	155					
237	KEND	INTEGER		REFS	DEFINED	153				
0	KIN	INTEGER	F.P.	REFS	114	DEFINED	26			
0	KLWA	INTEGER	F.P.	REFS	DEFINED	26				
11192	KPSVTHR	INTEGER	/ /	REFS						
4640	KPORCYC	INTEGER	/ /	REFS						
14354	KSORUF	INTEGER	/ /	REFS						
11323	KVALFTF	INTEGER	/ /	REFS						
240	K1	INTEGER		REFS						
4006	LL	INTEGER	/ /	REFS	DEFINED	159				
1574	MADAUTO	INTEGER	/ /	REFS						
11572	MAQDISP	INTEGER	/ /	REFS						
4026	MASPRF	INTEGER	/ /	REFS						
4133	MAXDUQY	INTEGER	/ /	REFS						
366	MINUTES	INTEGER	/ /	REFS						
1713	MISSION	INTEGER	/ /	REFS						
367	MODSIM	INTEGER	DEFAULT	REFS						
13	MSKALPT	INTEGER	TACPLGS	REFS						
16355	MSPBIT	INTEGER	/ /	REFS						
11431	MSPYRUF	INTEGER	/ /	REFS	107	105				
11501	MSPORUF	INTEGER	/ /	REFS	151	153				
11522	MSPYRUF	INTEGER	/ /	REFS	157					
11704	MUX3RUF	INTEGER	/ /	REFS						
16356	MUXBIT	INTEGER	/ /	REFS						
11604	MUXIRUF	INTEGER	/ /	REFS						
11663	MUXOBUF	INTEGER	/ /	REFS						
12394	MUXTBUF	INTEGER	/ /	REFS						
4642	M3	INTEGER	/ /	REFS						
314	NAV	REAL	/ /	REFS	41					
111	NBC	INTEGER	DEFAULT	REFS						
233	NBCA	INTEGER	DEFAULT	REFS						
247	NBCM	INTEGER	DEFAULT	REFS						
112	NBSIZ	INTEGER	DEFAULT	REFS						
250	NBUFFWD	INTEGER	DEFAULT	REFS						
106	NH1	INTEGER	DEFAULT	REFS						
365	NHOURS	INTEGER	/ /	REFS						
16354	NIUBIT	INTEGER	/ /	REFS						
11326	NIUBUF	INTEGER	/ /	REFS						
11340	NIUBUF	INTEGER	/ /	REFS						

VARIABLES	SN	TYPE	PELOCATION	REFS
4541 TR12	REAL	ARRAY	68	
2377 WEAFIP	REAL	ARRAY	49	
251 WHEN	REAL	ARRAY	42	
361 WIND	REAL	ARRAY	31	
3637 XBUOYDR	REAL	ARRAY	60	
4567 XFA	REAL	ARRAY	68	
4548 XINLSEA	REAL	ARRAY	68	
2063 XMADONT	REAL	ARRAY	49	
2306 XONTOP	REAL	ARRAY	49	
4572 XRDONTR	REAL	ARRAY	68	
4570 XSN	REAL	ARRAY	68	
4571 YBPD	REAL	ARRAY	68	
3640 YBUOYDR	REAL	ARRAY	60	
4714 YFA	REAL	ARRAY	68	
4557 YINLSEA	REAL	ARRAY	68	
4573 YROCNTR	REAL	ARRAY	68	

FILE NAMES	MODE	WRITES	107	117	130	141	151	160	177	187
EXTERNALS	TYPE	ARGS	REFERENCES							
ADVANCE	2	109								
EXPAND	3	105								
MSP	0	126		176						
XOR	INTEGER 2	28	167							

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	INTRIN	132
SHIFT	NO TYPE	2	INTRIN	132

STATEMENT LABELS	DEF LINE	REFERENCES
6 100	102	
162 110	108	
27 200	111	
167 210	114	
36 220	121	
173 230	131	
200 300	142	
62 310	145	
63 320	149	
204 330	152	
211 350	161	
0 360	162	
115 400	168	
216 410	178	
127 420	181	
0 510	187	
222 520	188	
136 540	191	

LOOPS	LABEL	INDEX	* K	FROM-TO	LENGTH	PROPERTIES	EXT	REFS
74	360			155	162			

COMMON BLOCKS LENGTH
/ 7417

MEMBERS - RIAS NAME(LENGTH)

0 HELC (24)
124 SHIPNAV(30)
171 REPTP (3)
224 FPNNAV (12)
241 WINC (2)
246 MINUTES(1)
249 JARUFF (640)
361 JSUB (1)
396 JPLOTT (1)
905 CX (1)
968 IRPTOT(1)
971 MISSION(1)
1016 DATUM (5)
1075 XMACCNT(12)
1163 CURSOR (24)
1206 TOPREC (6)
1217 EXPCIR (5)
1279 WEAFIP (5)
1303 BUOYRA (320)
1947 NPMG (4)
1953 ISONDAT(32)
1990 RI (32)
2055 ANS (1)
2061 NOTCH (4)
2070 MASTRF (64)
2139 MAXBUOY(1)
2145 CASSIM(1)
2151 IAUTCCH(1)
2172 IHPG (2)
2182 IAGDATV(4)
2191 IDFX (4)
2197 CLUTTER(1)
2200 DEL7I (1)
2203 IPDSYMP(1)
2206 IROFILE(120)
2358 IROFCE(1)
2390 IROFSC (1)
2393 JPDF (1)
2396 PHIR (1)
2399 SF (5)
2406 XINLSEA(9)
2425 VBPD (1)
2428 DCL13 (1)
2431 SNPHIR (1)
2434 GMLWDAC(21)
2455 TR12 (1)
2508 YFA (21)
2539 FARGLM(1)
2940 ILI9 (1)
2949 AKFR (1)
2987 SINR (16)
3015 SIGNAL (512)
4551 ANAPR (128)
4712 SANGERR(1)

24 TAFONAV(68)
154 SHIPCOM(9)
174 HELOST (30)
235 TIME (1)
243 IAUTMAN(2)
247 NSECS (1)
389 ITGONT (1)
392 MADAUTO(3)
507 JRESCT (1)
966 CY (1)
969 PLOTW70(1)
972 REFMLL (32)
1021 DIFAP (30)
1037 CCNTAC (60)
1197 SENSHPR(1)
1212 PDEPOS(3)
1222 XONTOP (3)
1284 SHOTOKU(1)
1623 BUCYNAV(320)
1951 XRUOYDP(1)
1985 DELIS (1)
2022 IR2 (32)
2056 C (1)
2085 INTGTM(4)
2134 IAAGPMO(4)
2140 IRFCH (4)
2146 CASSPER(1)
2152 IPASOUT(4)
2154 ICHNAT(4)
2186 ICHVCLP(4)
2195 ACFOIRE(1)
2198 DELXI (1)
2201 OLYPHIR(1)
2204 IOFAR (1)
2326 IROFED(31)
2359 IROFIZE(1)
2391 ISEASTE(1)
2394 NPD (1)
2397 RCONTC(1)
2404 SIGMA (1)
2415 VINLSEA(9)
2426 XPOCNTP(1)
2429 DCL23 (1)
2432 CSPIR (1)
2455 RADACCS(9)
2465 M3 (21)
2529 ISYTE (1)
2540 IFMT (300)
2941 INTVESH(4)
2950 NUPATN (1)
2983 SIG (1)
3527 COSO (512)
4679 FI (72)
4713 CVRANCE(1)

112 CCNNAV (12)
143 CCNVOY (8)
204 NAV (120)
237 TYPE (4)
245 NHOUPS (1)
248 TTUNE (1)
390 JCWN (1)
395 IPTCOR(1)
398 IPOREC (167)
967 TMTICK(1)
970 PLOTW70(1)
1004 ATCDEF (12)
1051 CSROCR (24)
1147 FNGCIF (16)
1188 FIXDES (18)
1215 PCINTSR(2)
1225 TRACKS (54)
1285 TACKSPP(18)
1943 ICH (4)
1952 YBUCYDF(1)
1986 NPMGNT(4)
2054 LL (1)
2057 ITHQ (4)
2069 ISELBY (1)
2138 ISCNCLN(1)
2144 IAGSYS (1)
2147 IAUOT (4)
2156 JTPCE (16)
2178 IACFATX(4)
2180 IROYCNT(1)
2196 A7SONLM(1)
2199 DELVI (1)
2202 GRA7ANG(1)
2205 IPERSIS(1)
2357 YPCPIXY(1)
2360 IFEIUPN(30)
2392 ITGIN (1)
2395 PD (1)
2398 PRRAGN(1)
2405 SIGMAC (1)
2424 XSN (1)
2427 YRDONT(1)
2430 DCL33 (1)
2433 CSYLO7(1)
2464 KODPCYC(1)
2487 YFA (21)
2530 IFATL (9)
2840 ITRKFL(100)
2945 ICCVAVE(4)
2951 CCSR (16)
2999 NCIS (16)
4039 SINC (512)
4711 ACU (1)
4714 KPSVTHF(1)

MEMBERS - RTAS NAME(LENGTH)

COMMON BLOCKS	LENGTH	MEMBERS - RTAS NAME(LENGTH)
4715	249	4715 IVERN (64) 4812 ALGAKV(1) 4815 AKFV (1) 4818 BERFP (1) 4822 NIUBUF(10) 4839 MSPURF(40) 4936 MADDISP(3) 5043 MUXCRUF(17) 5356 KATCRUF(1024) 7405 MSPRIT (1) 7409 TACREAR(1) 7413 STKSC (2) 0 HELCIC (5) 55 SONCIC (12) 69 JPOINT (1) 72 JOUTB (1) 75 SCT (80) 168 NRUFWAN(1) 171 IERIC (1) 174 ITGCEI (1) 177 RUOYIC (64) 246 ICFIRST(1) 0 ISMKONT(1) 3 IATLCNT(1) 8 IMACONT(1) 9 ICURCNT(1) 12 IPONTER(1) 15 ITORDS (1) 18 ICSROFG(1) 21 IWFTP (1) 0 IRKTIME(1) 3 IDATLAK(1) 6 HKTIME (1) 9 INSETP (1) 0 HOPLIM (1) 0 AMDCNS (16) 0 ESTATUS(1) 0 PRINTCN(1) 0 IBFULL (13) 0 IXFRERR(3)
4779		FRLOG (32) 4813 ALGTWC (1) 4816 TON (1) 4819 KVALETP(1) 4832 NIUBUF(17) 4929 MSPURF(17) 4969 TOSPACT(4) 5060 MUXABUF(256) 6780 KSOBUF (1024) 7406 MUXGIT (2) 7410 ITACVAL(1) 7415 I (1) 5 TAGCIC (38) 67 TRECFL(1) 70 NRI (1) 73 NSC (1) 155 NSCA (12) 169 WHEN (1) 172 IOCSEPR(1) 175 DELXTIC(1) 241 DATUMIG(4) 247 MODESIM(1) 1 IFTCNT(1) 4 IOFCNT(1) 7 IOGNCNT(1) 10 IFIXCNT(1) 13 IDATUM (1) 16 IPDDPOS(1) 19 THFLCUR(1) 1 THLCNTL(1) 4 IPATCOR(1) 7 IONTOPF(1) 10 ICYCDS (1) 13 IBFUL2 (13)
4311		ALGAKFF(1) 4814 IFPAND (1) 4817 GAMAS (1) 4820 IDAA (2) 4849 NIUBUF(40) 4846 MSOTRUF(40) 4893 MUXIRUF(50) 5316 MUXTRUF(40) 7404 NIUBIT (1) 7408 YACRANG(1) 7411 SYKATO (2) 7416 ERKOPD(1) 41 CANSTC (14) 68 JKRUN (1) 71 INR (1) 74 NESIZ (1) 167 NEOM (1) 170 IDECEPR(1) 173 IER2C (1) 176 DELXTIC(1) 245 ISCALIC(1) 248 ICDYMS(1) 2 IFFCNT(1) 5 ICJSCNT(1) 8 IOGNCNT(1) 11 IONTOS (1) 14 ISNSEC(1) 17 IXPONT(1) 20 INGFPG(1) 2 IFFLCOP(1) 5 THAVECF(1) 8 NREHCCR(1) 11 MSKALRI(1)
SYMFLG	22	
TACFLGS	12	
HORIZN	1	
CONST	16	
DATA14	1	
MSPDCOM	1	
BUFFLAG	26	
ERRFLAG	3	

STATISTICS

PROGRAM LENGTH	2628	179
COMMON LENGTH	5138	331
BLANK COMMON	163718	7417

```

1  C-----
2  C  SUPROUTINE ADVANCE(POINTER,LWA)
3  C
4  C
5  C
6  C  ABSTRACT
7  C  THIS ROUTINE INCREMENTS A POINTER BY 1. IF THE POINTER WAS
8  C  ALREADY SET TO AN LWA, THE POINTER IS RESET TO 1.
9  C
10 C  POINTER - CURRENT VALUE OF POINTER
11 C
12 C  LWA - LAST WORD ADDRESS FOR POINTER
13 C
14 C  CODING HISTORY
15 C  1. PROGRAMMED--ALEX PCOLECKI 11/04/77
16 C
17 C  END OF ABSTRACT
18 C-----
19 C
20 C  SUPROUTINE ADVANCE( K, KEND)
21 C  IF POINTER IS LESS THAN LWA
22 C  IF ( K .EQ. KEND ) GO TO 100
23 C  THEN
24 C  INCREMENT POINTER
25 C  K = K + 1
26 C  GO TO 200
27 C  ELSE
28 C  SET POINTER TO LWA
29 C
30 C  100 CONTINUE
31 C  K = 1
32 C  200 CONTINUE
33 C  ENDOF
34 C  RETURN
35 C  END

```

SUBROUTINE ADVANCE

SYMBOLIC REFERENCE MAP

CUC 6600 - IN V1.0-P380 CRT=1 78/06/12. 15.45.22.

PAGE

2

ENTRY POINTS DEF LINE REFERENCES
2 ADVANCE 20 33

VARIABLES SN TYPE RELOCATION
0 K INTEGER F.P.
0 KEND INTEGER F.P.

22 25 20 25 30
22 DEFINED 20 DEFINED

REFS
REFS

STATEMENT LABELS DEF LINE REFERENCES
11 100 29 22
12 200 31 26

STATISTICS
PROGRAM LENGTH 148 12

CUC 6600 FIN V1.0-0380 OPT-1 78/06/12. 15.45.22.

```

C-----
C
C SURROUTINE EXPAND(N,IN,OUT)
C
C
C 5
C
C ABSTRACT
C THIS ROUTINE EXPANDS A WORD INTO AN N WORD ARRAY SUCH THAT
C WORD 1 CONTAINS BIT N-1, WORD 2 CONTAINS BIT N-2, ...,
C AND WORD N CONTAINS BIT 0 ( RIGHT JUSTIFIED WITH ZERO FILL )
C
C 10
C N - NUMBER OF BITS TO BE EXPANDED
C
C IN - INPUT WORD TO BE EXPANDED
C
C 15
C OUT - OUTPUT ARRAY TO RECEIVE EXPANSION
C
C
C CORING HISTORY
C 1. PROGRAMMED--ALEX PODLECKI 11/07/77
C
C 20
C END OF ABSTRACT
C-----
C
C SURROUTINE EXPAND( N, IN, IOUT)
C DIMENSION IOUT(N)
C IN2 = SHIFT( IN, 50-(N-1))
C DO WHILE ANOTHER BIT TO BE EXPANDED
C DO 100 K=1,N
C MASK OUT DESIRED BIT
C IOUT(K) = AND( IN2, 1)
C SET UP FOR NEXT BIT
C IN2 = SHIFT( IN2, 1)
C 100 CONTINUE
C ENDDO
C RETURN
C 35
C END
C
C 36
C 37
C 38
C 39
C 40
C 41
C 42
C 43
C 44
C 45
C 46
C 47
C 48
C 49
C 50
C 51
C 52
C 53
C 54
C 55
C 56
C 57
C 58
C 59
C 60
C 61
C 62
C 63
C 64
C 65
C 66
C 67
C 68
C 69
C 70
C 71
```

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 EXPAND 24 35

VARIABLES SN TYPE RELOCATION
0 IN INTEGER F.P.
30 IN2 INTEGER F.P.
0 IOUT INTEGER F.P.
31 K INTEGER F.P.
0 N INTEGER F.P.

REFS 26 24 26 32
REFS 30 24 30
REFS 25 24
REFS 30 28
REFS 25 28

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES
AND NO TYPE 2 INTRIN 30
SHIFT NO TYPE 2 INTRIN 26

STATEMENT LABELS DEF LINE REFERENCES
0 100 33 28

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES
22 100 K 28 33 38 INSTACK

STATISTICS
PROGRAM LENGTH 418 33

```

72 DCCM -----
73 DCCM
74 DCCM
75 DCCM
76 DCCM
77 DCCM
78 DCCM
79 DCCM
80 DCCM
81 DCCM
82 DCCM
83 DCCM
84 DCCM
85 DCCM
86 DCCM
87 DCCM
88 DCCM
89 DCCM
90 DCCM
91 DCCM
92 DCCM
93 DCCM
94 DCCM

```

SUBROUTINE PACKPP(NRT, N)
ABSTRACT
THIS ROUTINE IS A DUMMY SUBSTITUTE FOR THE ACTUAL PACKPP.
NRT - NUMBER CORRESPONDING TO RT
N - NUMBER OF WORDS TO BE *PACKED*
CODING HISTORY
1. PROGRAMMED--ALEX POOLECKI 11/17/77
END OF ABSTRACT
SUBROUTINE PACKPP(NRT, N)
EXIT
RETURN
END

SUBROUTINE PACKPP

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
 2 PACKPP 20 22

VARIABLES	SN	TYPE	*UNUSED	RELOCATION
0 N		INTEGER	*UNUSED	F.P.
0 NRT		INTEGER	*UNUSED	F.P.

DEFINED 20
 DEFINED 20

STATISTICS
 PROGRAM LENGTH 6B 6

XOP
STORAGE ALLOCATION.

COMPASS - VER 2.

7/8/86/12. 15.45.32.

PAGE 1

ADDRESS LENGTH

0 3
3

BINARY CONTROL CARDS.

IDENT XOP
END

ENTRY POINTS.

XOP - 0

XOR

COMPASS - VER 2.

7/106/12. 15.45.32.

PAGE

2

IDENT
ENTRY
DATA
SA2
SA3
PX6
EC
END

XOR
XOP
0
X1
A1+1
X3
X2-X1
XOP

XOR

0 000000000000000000000000
1 53210 5031000001 5330
2 13623 0400000000 +
3

STORAGE USED
6600 ASSEMBLY

9 STATEMENTS
0.021 SECONDS

1 SYMBOLS
3 REFERENCES

DCOM 95
DCOM 96
DCOM 97
DCOM 98
DCOM 99
DCOM 100
DCOM 101
DCOM 102
DCOM 103

XOP

SYMBOL REFERENCE TABLF.

XOR

0

PROGRAM*

2/32 E

2/03 L

2/08

COMPASS - VFR 2.

78/06/12. 15.45.32.

PAGE

3

```

C-----
C SUBROUTINE MSP
C
C ABSTRACT
C THIS ROUTINE SENDS EVENT AND CONTACT MESSAGES TO AN/AWK-14
C FROM MADMOD DATA AND VERIFIES ALTITUDE, SPEED, HEADING
C AND ROLL.
C
C CODING HISTORY
C 1. PROGRAMMED--ALEX PODLECKI 10/26/77
C
C END OF ABSTRACT
C-----
C
C SUBROUTINE MSP
C LOGICAL STATUS, IPL, PMERROR, PROINIT
C INTEGER ESTATUS
C INTEGER COMMAND, DATANC, ACCUMPC, SELFST, OPTION, RT,
C * BIT, OLOBIT, DIFF, SIGNEDT, CPBIT, PPSIT, XOR, CLCOT, IP
C COMMON /DATA14/ ESTATUS
C NAVIGATION PARAMETERS
C COMCN//HELO(2), TARGNAV(4,22), CONNAV(4,3), SHIPNAV(2,15),
C X SHEPCHM(3,3), CONVOC(4,2), REFYF(3), HELOS(2,15), NAV(20)
C X , FERNV(4,3), TIME
C X , FREE(4), WIND(2), IAUTMAO(2)
C X , NHOURS, MINUTES, NSECS
C X , ITUNE, JABUFF(64,5,2)
C X , ITGNT, JOWN, JSUR, MADAUTO(3)
C X , IPTCORR, JPLOT
C X , JXSET, IPOCNC(67), CX,CY
C X , TIMICK, IRPTCTP, PLCTYZP, PLOYVR, MISSION
C REAL NAV
C COMMON/DEFAULT/HELOCIC(5), TARGIC(9,4), OMNSIC(7,2), SCNOIC(3,4),
C X ISECFL, JKRUN, JPRINI, NSI, INB, IOUTB, NBC, NBSIZ, SCT(10,8),
C X NBGA(12), NBGM, NBUFFRD, WHEN,
C X IDCEGR, IEAIC, IOGERR, IEQZC,
C X ITGDET, DELXTIC, DELVTIC,
C X RUOVIC(2,32), CATUVIC(4), ISCALIC, ICFFIPT, MODESIM, ICOTMS
C-----TACTICAL DISPLAY PARAMETERS
C COMMON/REFMLL(4,4), ATCPREF(3,4), DATUM(5), DTAP(5,4)
C X CSROCR(4,6), XMADCENT(4,3), CONIAC (10,3), PNGITP(4,4), CURSOR(6,4)
C X , SENSORFIXDS(3,6), TORPED(3,2), PREPOS(3), POINTER(2), EXPCIR(5)
C X , XONTCP(3), TRACKS(3,3,6), WEAFIP(5), SHETRKA, TRCKSHRP(3,6)
C COMMON/SWFLG/ISHKONT, IFIPONT, IREFCNT, IAILCNT, IDFOCNT
C X , ICASCNT, IMADONT, IGMCNT, IPCPCNT, ICURONT, IFIXCNT, IONTCP
C X , IPCNTR, IDATUM, ISNSEDS, ITORDS, IPDPOS, IFXPNT, ICSPDFC
C X , THELCUR, IIRNGFDG, IWFTP
C COMMON/TAGFLGS/TPKTIME, IHLNLT, THELCOR, IDATUNK
C X , IPATCOR, IHKVEPF, HKTIME, IONTOFF, NEFHOCG, IOSSTP, ICYCDS, MSKALRT
C-----ACCUSTM MODEL TABLES AND PARAMETERS
C COMMON/BUOVWRH(10,32), BUOVNAV(10,32), ICH(4), NPNC(4), XBLOVDP
C X , YDUVOVR, ISCONDAT(32), DELTS, NRANGNT(4), RI(32), IR2(32), LL

```



```

115      IF ( MSPBUF(INPINDEX) .EQ. 0 ) GO TO 700
      C-----
      C      CRACK COMMAND WORD INTO BASIC FIELDS
      C-----
      COMMAND = AND( 378, SHIFT( MSPBUF(INPINDEX), 60-5))
      DATAWC = AND( 373, MSPBUF(INPINDEX))
      TR = AND( 18, SHIFT( MSPBUF(INPINDEX), 60-10))
      MSPBUF(INPINDEX) = 0
      C      IF POINTER IS LESS THAN LWA
      C      IF ( INPINDEX .EQ. INPSIZE ) GO TO 110
      C      THEN
      C      INCREMENT POINTER
      C      INPINDEX = INPINDEX + 1
      C      GO TO 120
      ELSE
      C      CONTINUE
      C      SET POINTER TO FWA
      C      INPINDEX = 1
      C      CONTINUE
      C      ENDF
      C      IF COMMAND IS A MODE/DISCRETE
      C      IF ( COMMAND .NE. 0 ) GO TO 300
      C      THEN
      C-----
      C      PROCESS MODE/DISCRETES
      C-----
      C      IF MODE/DISCRETE IS INITIALIZED PT
      C      IF ( DATAWC .NE. 1 ) GO TO 210
      C      THEN
      C-----
      C      INITIALIZE PT
      C-----
      C      SELFST = 0
      C      PROINIT = .FALSE.
      C      IPL = .FALSE.
      C      IBFUL1(P) = 0
      C      IBFUL2(P) = 0
      C      IDAW(1) = IDAW(1) .OR. 200B
      C      IDAW(2) = IDAW(2) .OR. 200B
      ELSE
      C      CONTINUE
      C      CONTINUE PROCESSING MODE/DISCRETES
      C      ENDF
      C      IF MODE/DISCRETE IS INITIATE SELF-TEST
      C      IF ( DATAWC .NE. 3 ) GO TO 220
      C      THEN
      C-----
      C      INITIATE SELF-TEST
      C-----
      C      SELFST=300
      C      IPL = .FALSE.
      C      IBFUL1(P) = 0
      C      IBFUL2(P) = 0
      C      IDAW(1) = IDAW(1) .OR. 200B
      C      IDAW(2) = IDAW(2) .OR. 200B

```



```

162 MSP
163 MSP
164 MSP
165 MSP
166 MSP
167 MSP
168 MSP
169 MSP
170 MSP
171 MSP
172 MSP
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211 MSP
212 MSP
213 MSP
214 MSP
215 MSP
216 MSP

IPL = .FALSE.
ACCUWMC = ACCUWMC + DATAW
DO WHILE IPL WORDS IN BUFFER
  DO 320 I=1,DATAW
    IGNORE IPL WORDS
    MSPIDPL(INPINDEX) = 0
    IF *IN* IS LESS THAN *LWA*
      IF ( INPINDEX .EQ. INPSIZE ) GO TO 313
    THEN
      INCREMENT *IN*
      INPINDEX = INPINDEX + 1
      GO TO 316
    ELSE
      CONTINUE
      SET *IN* TO *FWA*
      INPINDEX = 1
      CONTINUE
      ENDDIF
    CONTINUE
  ENDDO
  IF OBSERVED WORD COUNT MATCHES CONTROL COMMAND
    IF ( ACCUWMC .NE. MSGWC ) GO TO 330
    THEN
      NO MULTI-MESSAGE WORD COUNT ERROR
      MERROR = .FALSE.
      GO TO 340
    ELSE
      CONTINUE
      MULTI-MESSAGE WORD COUNT ERROR
      MERROR = .TRUE.
      CONTINUE
      ENDDIF
      ACCUWMC = 0
      GO TO 496
    ELSE
      CONTINUE
      INPUT DATA IS TO BE PROCESSED
      DO WHILE INPUT DATA IN BUFFER
        CONTINUE
        IF ( DATAW .LE. 0 ) GO TO 490
        CRACK IDENT FIELD FOR DATA WORD
        IDENT=AND(7,SHIFT(MSPIDPL(INPINDEX),60-13))
        CASE MODE VALUE (IDENT)
        GO TO 1400,410,420,430,440,450,460,470
        IDENT + 1
        IF IDENT)410,430,410
        CONTINUE
        *IDENT EQ 0
        DECODE ALTITUDE
        IVALUE=AND(17777H,MSPIDPL(INPINDEX))

```



```

322 MSP IF (IDENT-4) 450, 41, 450
328 MSP CONTINUE
329 MSP *IDENT EQ 4
330 MSP -----
331 MSP DECODE 1ST WORD OF TOTAL MAG FIELD
332 MSP -----
333 MSP IVALUE=AND(177778,MSPBUF(INPINX))
334 MSP MAOMSB=IVALUE
335 MSP MSPBUF(INPINX)=0
336 MSP IF *IN* IS LESS THAN *LW*
337 MSP IF (INPINX.EQ. INPSIZE) GO TO 443
338 MSP THEN
339 MSP INCREMENT *IN*
340 MSP INPINX = INPINX + 1
341 MSP GO TO 446
342 MSP ELSE
343 MSP CONTINUE
344 MSP RESET *IN* TO *FW*
345 MSP INPINX = 1
346 MSP CONTINUE
347 MSP ENDF
348 MSP DATA C = DATA C - 1
349 MSP -----
350 MSP DECODE 2ND WORD OF TOTAL MAG FIELD
351 MSP -----
352 MSP IVALUE=AND(177770E,MSPBUF(INPINX))
353 MSP MAOMSB=IVALUE
354 MSP GO TO 440
355 MSP CONTINUE
356 MSP IF (IDENT-5) 460, 4501, 460
357 MSP CONTINUE
358 MSP *IDENT EQ 5
359 MSP OBTAIN CURRENT POSITION
360 MSP CALL LOCATE(HELO(13),HELO(14),ZLAT,
361 MSP ZLONG)
362 MSP CONVERT LATITUDE TO RADS
363 MSP ZLAT=ZLAT*ZLAT*180.0
364 MSP CONVERT LONGITUDE TO RADS
365 MSP IF LONGITUDE IS WEST
366 MSP IF (ZLONG.GT. 0) GO TO 451
367 MSP THEN
368 MSP SUBTRACT DEGREES FROM 360
369 MSP ZLONG=360.0-ZLONG
370 MSP ELSE
371 MSP LEAVE DEGREES ALONE
372 MSP CONTINUE
373 MSP ENDF
374 MSP -----
375 MSP DFCODE LONGITUDE
376 MSP -----
377 MSP IVALUE=AND(77B,SHIFT(MSPBUF(INPINX
378 MSP 1,60-7))
379 MSP VALUE=FLOAT(IVALUE)*5.625
380 MSP DIFF=ABS(VALUE-ZLONG)
381 MSP IF WITHIN TOLERANCE
382 MSP
383 MSP
384 MSP
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505      C      CONTINUE
          RESET *IN* TO *FMA*
          INPINCX = 1
510      C      CONTINUE
          ENDIF
          IPL = .TRUE.
          ACCUMWC = 0
          ELSE
            CONTINUE PROCESSING OTHER COMMANDS
560      C      CONTINUE
          ENDIF
          IF COMMAND IS A MULTI-MESSAGE TRANSFER
            IF ( COMMAND .EQ. 6 ) GO TO 690
            THEN
565      C      -----
          C      PROCESS MULTI-MESSAGE TRANSFER
          C      -----
          C      ACCUMWC = ACCUMWC + 32
          ELSE
            CONTINUE PROCESSING OTHER COMMANDS
570      C      CONTINUE
          ENDIF
          C      690
          C      -----
          C      ALL OTHER COMMANDS ARE TREATED AS NO-OPS
          C      -----
          C      GO TO 100
575      C      700 CONTINUE
          C      ENDDC
          C      -----
          C      OUTPUT PROCESSING STARTS HERE
          C      -----
          C      OSTATUS = .TRUE.
          RT = MSPBIT
          BIT = MSPBIT
585      C      -----
          C      IF SELF-TEST IS IN PROGRESS
          C      -----
          C      IF ( SELFTEST .EQ. 0 ) GO TO 710
          THEN
590      C      DECREMENT SELF-TEST COUNTER
          SELFTEST = SELFTEST - 1
          IF SELF-TEST HAS NOT TIMED OUT
          IF ( SELFTEST .EQ. 0 ) GO TO 703
          THEN
          SET FLAG TO SKIP OUTPUT THIS CYCLE
          OSTATUS = .FALSE.
          SET RECEIVE BUSY BIT
          RT = OR( RT, 1000B )
          GO TO 706
          CONTINUE
          ELSE
            FORCE OUTPUT OF NON-ZERO BIT STATUS WORD
            OLDBIT = 0
600      C      703
          C      CONTINUE
          ENDIF
          C      706
          C      CONTINUE
          ENDIF

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C      ELSE
C      CONTINUE PROCESSING
C 710 CONTINUE
C      ENDF
C      CPBIT = AND( 1, SHIFT( IDAN(1), 60-8))
C      PPBIT = AND( 1, SHIFT( IDAN(2), 60-8))
C-----
C      IF CP AND PP DATA AVAILABLE BITS ARE THE SAME
C-----
C      IF ( CPBIT .NE. PPBIT ) GO TO 1010
C      THEN
C-----
C      IF DC HAS NOT REQUESTED PREVIOUS DATA
C-----
C      IF ( IBFUL1(A) + IBFUL2(A) ) 720,730,720
C      THEN
C      SET FLAG TO SKIP OUTPUT DATA THIS CYCLE
C      CONTINUE
C      OSTATUS = .FALSE.
C      IXPERRP(2) = IXPERRP(2) .OR. SHIFT(IBFUL1(3),7)
C      IXPERRP(3) = IXPERRP(3) .OR. SHIFT(IBFUL2(A),7)
C      ELSE
C      ALLOW OUTPUT DATA THIS CYCLE
C-----
C 720 CONTINUE
C      ENDF
C-----
C 730 CONTINUE
C      ENDF
C-----
C      IF INITIATE PROCESSING MODE/DISCRETE NOT ACTIVE
C-----
C      IF ( PROINIT ) GO TO 740
C      THEN
C      SET FLAG TO SKIP OUTPUT DATA THIS CYCLE
C      OSTATUS = .FALSE.
C      ELSE
C      ALLOW OUTPUT DATA THIS CYCLE
C-----
C 740 CONTINUE
C      ENDF
C-----
C      IF LOCKON DETECT NOT SET ( SYSTEM NOT READY )
C-----
C      IF ( ION .NE. 0 ) GO TO 770
C      THEN
C      SET FLAG TO SKIP OUTPUT THIS CYCLE
C      OSTATUS = .FALSE.
C      TURN SYSTEM READY BIT OFF
C      BIT = AND (BIT, COMPL(10B))
C      GO TO 780
C      ELSE
C      CONTINUE
C      TURN SYSTEM READY BIT ON
C      BIT = OR( BIT, 10B)
C-----
C 770 CONTINUE
C      ENDF
C-----
C 780 CONTINUE
C      ENDF
C-----
C      IF TPAIL NOT OUT
C-----
C-----

```

MSP 547

MSP 548

MSP 549

MSP 550

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MSP 597

MSP 598

MSP 599

MSP 600

MSP 601

```

665      IF ( IREEL .GE. 600 ) GO TO 790
        THEN
          SET FLAG TO SKIP OUTPUT THIS CYCLE
          OSTATUS = .FALSE.
          TUPN TRAIL BIT OFF
          BIT = AND( BIT, COMPL(208))
          GO TO 800
        ELSE
          CONTINUE
          TURN TRAIL BIT ON
          BIT = OR( BIT, 208)
670      GOCONTINUE
        ENDOF
        NOUTBUF = 1
675      IF MULTI-MESSAGE ERROR HAS OCCURRED
        THEN
          SET BIT 2 IN BIT STATUS WORD
          BIT = OR( BIT, 48)
          MMERROR = .FALSE.
        ELSE
          LEAVE BIT 2 OFF
685      CONTINUE
        ENDOF
        IVALUE = AND( BIT, COMPL(CLOBIT)) .AND. 1701778
690      IF BIT STATUS HAS CHANGED (BIT CHANGES LOW TO HIGH)
        THEN
          PLACE BIT WITH I/F BIT SET AND NEW FAULTS
          INTO OUTPUT BUFFER
          RT = OR( RT, 1)
          MSPTRUF(1) = RT
          MSPTRUF(2) = IVALUE
          NOUTBUF = 2
          CLOBIT = BIT
          GO TO 940
        ELSE
          CHANGE OLD BIT STATUS TO NEW BIT STATUS
          OLDRT = BIT
          CONTINUE
          ENDOF
705      IF OUTPUT DATA SHOULD BE SENT
        THEN
          IF ( .NOT. OSTATUS ) GO TO 900
          THEN
            CASE MODE VALUE (OPTION)
            GO TO ( 820, 840, 860, 880), OPTION+1
            IF (OPTION) 840, 820, 840
            *OPTION EQ 0
715

```



```

      C-----
      C      PROCESS MAGNIFICATED DATA
      C-----
      C      820
      C      CONTINUE
      C      IF PRELIMINARY EVENT FLAG ON
      C      IF ( IEVENT .EQ. 0 ) GO TO 825
      C      THEN
      C      SET PT DATA AVAILABLE
      C      PT = OR( PT, 4008)
      C      COMPUTE PRELIMINARY TIME LATE
      C      PTIMLAT = TIME - AMADDET(IEVENT,9) +
      C      (AMADDET(IEVENT,5) * 0.1 * (2.0*
      C      RANF(IVALUE)-1.0))
      C      RESET FLAG TO ZERO
      C      AMADDET(IEVENT,1) = 0
      C      IEVENT = 0
      C      INSERT INTO OUTPUT BUFFER
      C      NOUTBUF = NOUTBUF + 1
      C      CALL MSP PACK( 13, PTIMLAT, 0.125,
      C      IVALUE)
      C      MSPTRBUF(NOUTBUF) = OR( IVALUE, 200008)
      C      ELSE
      C      OMIT PRELIMINARY EVENT DATA
      C      CONTINUE
      C      ENDOF
      C      I = 0
      C      DOWHILE MAD EVENT POSSIBLE
      C      CONTINUE
      C      I = I + 1
      C      IF CONFIRM DETECT FLAG ON
      C      IF ( AMADDET(I,8) .EQ. 0 ) GO TO 835
      C      THEN
      C      SET PT DATA AVAILABLE
      C      PT = OR( PT, 4008)
      C      COMPUTE FINAL TIME LATE
      C      YIMLAT = TIME - AMADDET(I,9) +
      C      (AMADDET(I,5) * 0.1 * (2.0*
      C      RANF(IVALUE)-1.0))
      C      INSERT INTO OUTPUT BUFFER
      C      NOUTBUF = NOUTBUF + 1
      C      CALL MSP PACK( 13, YIMLAT, 0.125,
      C      IVALUE)
      C      MSPTRBUF(NOUTBUF) = IVALUE
      C      INSERT SLANT RANGE INTO OUTPUT
      C      NOUTBUF = NOUTBUF + 1
      C      IVALUE = AMADDET(I,4)
      C      MSPTRBUF(NOUTBUF) = OR( 400008,
      C      IVALUE)
      C      RESET FLAG TO ZERO
      C      AMADDET(I,8) = 0
      C      ELSE
      C      OMIT CONFIRM DETECT DATA
      C      CONTINUE
      C      ENDOF
      C      IF ( I .LT. 3 ) GO TO 830
      C      ENDDO

```

```

      GO TO 890
      -----
      *OPTION EC 1
      TRANSMIT DIGITAL MAGNETOMETER DATA
      PROCESS AN/AVK-14 DATA
      -----
      CONTINUE
      IF(OPTION-11860,841,860)
      CONTINUE
      SET RT DATA AVAILABLE
      RT = CR( RT, 4000)
      SEND 2 WORDS OF TOTAL MAD FIELD
      NOUTBUF = NOUTBUF + 1
      MSPTRUF(NOUTBUF) = OP( 1000008, MADMSB)
      NOUTBUF = NOUTBUF + 1
      MSPTRUF(NOUTBUF) = MANLSR
      SEND ALTITUDE COMPENSATION
      NOUTBUF = NOUTBUF + 1
      IVALUE = SHIFT( IARS(IALCMP), 2)
      IF ALTITUDE COMPENSATION IS POSITIVE
      IF ( IALCMP .LT. 0 ) GO TO 845
      THEN
      SET SIGN BIT TO 0
      SIGNBIT = 0
      GO TO 850
      ELSE
      SET SIGN BIT TO 1
      CONTINUE
      SIGNBIT = 100008
      CONTINUE
      ENDF
      IVALUE = OR( IVALUE, SIGNBIT)
      MSPTRUF(NOUTBUF) = OR( 1200003, IVALUE)
      GO TO 890
      -----
      *OPTION EC 2
      TRANSMIT DIGITAL MAGNETOMETER DATA
      -----
      CONTINUE
      IF(OPTION-21880,861,880)
      CONTINUE
      SET RT DATA AVAILABLE
      RT = CR( RT, 4000)
      SEND 2 WORDS OF TOTAL MAD FIELD
      NOUTBUF = NOUTBUF + 1
      CALL MSP PACK( 26, GAMMAS, 0.00111, IVALUE)
      IVALUE1 = AND( 17777R, SHIFT( IVALUE, 60-131 ) )
      MSPTRUF(NOUTBUF) = OR( 1000008, IVALUE1)
      NOUTBUF = NOUTBUF + 1
      IVALUE1 = AND( 17777R, IVALUE)
      MSPTRUF(NOUTBUF) = SHIFT( IVALUE1, 3)
      SEND ALTITUDE COMPENSATION = ALTITUDE
      NOUTBUF = NOUTBUF + 1
      IVALUE = ARS(HELO(15))
      MSPTRUF(NOUTBUF) = OR( 1200008, SHIFT( IVALUE,

```

```

      2))
      GO TO 890
      *OPTION EQ 3
      PROCESS AN/AYK-14 DATA
      -----
      880 CONTINUE
      THIS OPTION IS TREATED AS A NO-OP
      890 CONTINUE
      ENDCASE
      SET WORD COUNT IN RT STATUS
      IF RT = OR( RT, SHIFT(NCUTBUF-1,1))
      ELSE
      OMIT ALL OUTPUT DATA THIS CYCLE
      900 CONTINUE
      ENDIF
      -----
      IF RT STATUS HAS CHANGED OR IF SOMETHING IS IN OUTPUT BUFFER
      IF ( RT .EQ. OLORT .AND. NOUTBUF .EQ. 1 ) GO TO 1020
      THEN
      OLORT = RT .AND. 277776P
      PUT RT STATUS WORD INTO OUTPUT BUFFER
      MSPTBUF(1) = RT
      IF STATUS SENT FLAG IS RESET
      IF ( IBFUL1(8) .EQ. 1 ) GO TO 1030
      THEN
      IF DATA SENT FLAG IS RESET
      IF ( IBFUL2(8) .EQ. 1 ) GO TO 1050
      THEN
      IF DATA IN OUTPUT BUFFER
      IF ( .NOT. OSTATUS ) GO TO 1060
      THEN
      SET DATA SENT FLAG
      IBFUL2(8) = 1
      ELSE
      GC NOT SET FLAG
      1060 CONTINUE
      ENDIF
      -----
      PACK OUTPUT BUFFER
      -----
      CALL PACKPF( 8, NOUTBUF )
      -----
      CONSTRUCT HEADER WORD
      -----
      NBYTES=NOUTBUF * NOUTBUF
      NWORDS=(NBYTES+4)/5
      MSPOBUF(1)=OR( SHIFT(NBYTES,12),NWORDS)
      CHANGE OLD BIT STATUS TO NEW RT STATUS
      OLDBIT = RT
      -----
      SET CP DATA AVAILABLE BIT
      -----

```


RELOCATED REFERENCE MAP

REFERENCES
909

RELOCATION

SYMBOLS SN TYPE
1000 ADDRESS INTEGER

1000 ADDRESS REAL

1000 ADDRESS REAL

1000 ADDRESS REAL

1000 ADDRESS REAL

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SUBR LINE MSP

VARIABLES SN TYPE RELOCATION

4575	DCL23	REAL	/	REFS	62				
4576	DCL33	REAL	/	REFS	62				
3701	DEL33	REAL	/	REFS	54				
4226	DELXI	REAL	/	REFS	62				
257	DELXTIC	REAL	DEFAULT	REFS	36				
4227	DELYI	REAL	/	REFS	62				
260	DELYIIC	REAL	DEFAULT	REFS	36				
4230	DELZI	REAL	/	REFS	62				
1775	DIFAR	REAL	/	REFS	43				
1047	DIFF	INTEGER	/	REFS	21				
				DEFINED	277	305	330	371	441
4231	DLTPHIR	REAL	/	REFS	302	328	369	439	460
0	ESTATUS	INTEGER	DATA14	REFS	62				
				REFS	20	291	317	342	383
									453
45	EVENT	REAL	MAD	REFS	85				
44	EVENTIM	REAL	MAD	REFS	85				
2301	EXPCIR	REAL	/	REFS	43				
4753	FARNGLM	REAL	/	REFS	62				
11107	FI	REAL	/	REFS	72				
2244	FIXDES	REAL	/	REFS	43				
11253	FRLOS	REAL	/	REFS	72				
355	FTPE	REAL	/	REFS	25				
340	FTPNV	REAL	/	REFS	25				
5	GAIN	REAL	MAD	REFS	85				
11321	GAMMAS	REAL	/	REFS	76				
4602	GMLMOAC	REAL	/	REFS	82				
4232	GRAZANG	REAL	/	REFS	62				
0	HELO	REAL	/	REFS	25				
0	HELOIC	REAL	/	REFS	36				
256	HELOST	REAL	DEFAULT	REFS	25				
6	HKTIME	REAL	/	REFS	51				
0	HORLIM	REAL	TACFLGS	REFS	77				
1054	I	INTEGER	HOR17N	REFS	743				
				DEFINED	224	2*750	760	764	769
4126	IAGPMD	INTEGER	/	REFS	740	743			
4202	IACDAX	INTEGER	/	REFS	54				
4206	IACDAX	INTEGER	/	REFS	54				
4140	IACSTS	INTEGER	/	REFS	54				
1066	IALTCHP	INTEGER	/	REFS	54				
6	IAMAD	INTEGER	MAD	REFS	789	DEFINED	490	495	
3	IATLCNT	INTEGER	SYMFLG	REFS	85				
363	IAUTMAD	INTEGER	/	REFS	47				
4143	IAUTC	INTEGER	/	REFS	25				
4147	IAUTOCH	INTEGER	/	REFS	54				
0	ISFUL1	INTEGER	/	REFS	54				
			PUFFLAG	REFS	88				
				148	620	625	853	DEFINED	93
15	IBFUL2	INTEGER	PUFFLAG	REFS	162	884			104
				163	620	626	856	DEFINED	147
4216	IROYCNT	INTEGER	/	REFS	180	862			
5	ICASCNT	INTEGER	/	REFS	54				
370	ICOTMOS	INTEGER	SYMFLG	REFS	47				
4234	ICFAR	INTEGER	/	REFS	36				
366	ICFIRST	INTEGER	/	REFS	62				
3627	ICH	INTEGER	DEFAULT	REFS	34				
			/	REFS	54				

VARIABLES	SN	TYPE	RELOCATION	ARRAY	REFS	148	149	164	165	181	182	165
4176	ICMNDAT	INTEGER	/ /	ARRAY	REFS	148	149	164	165	181	182	165
7	ICMNCNT	INTEGER	SYMFGL		REFS	611	OFFINFO	148	149	164	165	
22	ICSRDFG	INTEGER	SYMFGL		REFS	182						
11	ICMPCNT	INTEGER	SYMFGL		REFS	36						
12	ICYCDS	INTEGER	TACFLGS		REFS	263						
3	ICATLKN	INTEGER	TACFLGS		REFS	264						
15	ICATUM	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
11324	IDAW	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
254	IDC2ERP	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
252	IDCERR	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
1356	IDCNT	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
4	IDRCNT	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
4217	IDFX	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
11	IDSTP	INTEGER	TACFLGS		REFS	295	321	345	386	415	477	
11375	IDSPACU	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
4754	IEMIT	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
1061	IERR	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
253	IEPIC	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
255	IERG	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
43	IEVENT	INTEGER	MAO		REFS	295	321	345	386	415	477	
21	IEXPONT	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
4742	IFAIL	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
12	IFXCNT	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
11316	IFRANO	INTEGER	/ /		REFS	295	321	345	386	415	477	
1	IFPCNT	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
2	IFELCOP	INTEGER	TACFLGS		REFS	295	321	345	386	415	477	
23	IFELCOUR	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
4174	IFEPG	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
5	IFKVEFF	INTEGER	TACFLGS		REFS	295	321	345	386	415	477	
1	IFLONTL	INTEGER	TACFLGS		REFS	295	321	345	386	415	477	
5574	ILIB	INTEGER	/ /		REFS	295	321	345	386	415	477	
6	IMADONT	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
107	INR	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
1001	INPNDX	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
1002	INPSIZE	INTEGER	/ /		REFS	295	321	345	386	415	477	
4021	INTGTM	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
5575	INTVESH	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
5601	IOCTAVE	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	
11320	ION	INTEGER	/ /		REFS	295	321	345	386	415	477	
13	IONTOP	INTEGER	SYMFGL		REFS	295	321	345	386	415	477	
7	IONTOPF	INTEGER	TACFLGS		REFS	295	321	345	386	415	477	
110	IOUTR	INTEGER	DEFAULT		REFS	295	321	345	386	415	477	
41150	IPASOUT	INTEGER	/ /	ARRAY	REFS	295	321	345	386	415	477	

VARIABLES	SN	TYPE	DECLARATION	RELOCATION	YADFLGS	REFS	216	DEFINED	91	145	161	177
4 IPATCOR	1602	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4235 IPDEC	4235	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
776 IPERGIS	776	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
14 IPI	14	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
20 IPPOCS	20	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4212 IPSVOLF	4212	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
1577 IPTCOR	1577	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
10 IPORONT	10	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4236 IPORFILE	4236	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4426 IPORDFC	4426	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4465 IPORIOX	4465	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4466 IPORMFE	4466	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4526 IPORSC	4526	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4467 IPDSIZE	4467	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4233 IPDSYMB	4233	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
103 IRECEPL	103	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
3 IREEL	3	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
0 IREELCM	0	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
2 IREELCN	2	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4470 IRETURN	4470	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4134 IRFCM	4134	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
24 IRNGFDDG	24	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
1710 IRPTOTR	1710	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
3746 IR2	3746	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
365 ISCALIC	365	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4527 ISEASTE	4527	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4025 ISELBY	4025	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4741 ISIZE	4741	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
0 ISMKNT	0	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
16 ISNSEQS	16	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
3641 ISONDAT	3641	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4132 ISONGLN	4132	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
16362 ITACVAL	16362	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
1571 ITGCNT	1571	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
256 ITGDEY	256	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4530 ITGYN	4530	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
4011 ITHQ	4011	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
17 ITOROS	17	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
5430 ITRKFL	5430	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
370 ITUNE	370	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
1057 IVALUE	1057	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
1072 IVALUE1	1072	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
11153 IVERN	11153	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
25 IWFTP	25	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
0 IXFREPR	0	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177
371 JABUFF	371	INTEGER	ARRAY	SYMFGL	SYMFGL	REFS	216	DEFINED	91	145	161	177

[illegible]

[illegible]

VARIABLES SN TYPE RELOCATION

4544 SIGMA REAL
4545 SIGMA0 REAL
5707 SIGNAL REAL
1050 SIGNBIT INTEGER
ARRAY

REFS 62
REFS 62
REFS 72
REFS 21
REFS 793

485

354

DEFINED

802

487

356

5627 SINB REAL
7707 SIND REAL
4577 SNPHIP REAL
67 SONOIC REAL
16363 STKATO REAL
16365 STKSO REAL
16361 TACBEAR REAL
16360 TACRANG REAL
5 TARGIC REAL
30 TARGNAV REAL
354 TIME REAL
1071 TIMLATE REAL
1707 TIMTICK REAL
2266 TORPED REAL
1053 TR INVECR
2311 TRACKS REAL
2405 TRCKSHP REAL
0 TRKTIME REAL
4641 TR12 REAL
1060 VALUE REAL

REFS 794
REFS 72
REFS 72
REFS 62
REFS 36
REFS 79
REFS 79
REFS 79
REFS 79
REFS 36
REFS 25
REFS 25
REFS 755
REFS 25
REFS 43
REFS 21
REFS 43
REFS 43
REFS 51
REFS 62
REFS 277
REFS 750
REFS 459

750

750

201

DEFINED

117

439

361

460

366

428

428

428

2377 WEAFIP REAL
251 WHEN REAL
351 WIND REAL
3637 XBUOYDR REAL
4667 XFA REAL
4546 XINLSEA REAL
2063 XMAOONT REAL
2306 XONTOP REAL
4572 XROGNTR REAL
4570 XSN REAL
4571 YBPO REAL
3640 YBUOYDR REAL
4714 YFA REAL
4557 YINLSEA REAL
4573 YROGNTR REAL
1064 ZLAT REAL
1065 ZLONG REAL

REFS 43
REFS 36
REFS 25
REFS 54
REFS 62
REFS 62
REFS 43
REFS 43
REFS 62
REFS 62
REFS 62
REFS 54
REFS 62
REFS 62
REFS 62
REFS 419
REFS 419

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EXTERNALS LOCATE
MSPACK
PACKPP
RANF
SETBIT
XOR

REFS 816
REFS 755
REFS 750
REFS 317
REFS 360

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REFERENCES 419
419
733
870
725
291
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REFS 816
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EXTERNALS LOCATE
MSPACK
PACKPP
RANF
SETBIT
XOR

REFS 816
REFS 755
REFS 750
REFS 317
REFS 360

816

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
ARS	REAL	1	INTRIN	2*277
AND	NO TYPE	2	INTRIN	115
				754
				610
COMPL	NO TYPE	1	INTRIN	680
FLOAT	REAL	1	INTRIN	301
IABS	INTEGER	1	INTRIN	789
OR	NO TYPE	2	INTRIN	598
				761
				937
SHIFT	NO TYPE	2	INTRIN	115
				610
				937

STATEMENT LABELS	DEF LINE	REFERENCES
8 25	107	101
6 100	110	576
24 110	126	124
25 120	129	124
40 218	151	138
50 220	167	155
61 230	184	171
61 300	191	132
70 310	211	201
104 313	234	224
105 316	237	232
0 320	239	224
112 330	248	242
114 340	251	246
116 390	256	216
116 398	261	523
0 400	270	269
136 402	285	279
137 404	289	283
142 410	293	2*269
0 411	296	2*295
157 412	311	305
160 414	314	309
163 420	319	295
0 421	322	321
200 422	336	330
201 424	339	334
204 430	344	2*321
222 431	365	356
225 432	367	362
235 434	377	371
236 436	380	375
0 437	386	345
241 440	385	2*345
0 441	387	386
253 443	402	396
254 446	405	400
261 450	414	2*386
274 451	431	425

STATEMENT LABELS

DEF LINE

REFERENCES

307 452	447	441
310 454	450	445
325 456	468	462
326 458	471	466
331 463	476	2*415
0 461	478	477
343 462	493	487
345 464	496	491
346 470	499	2*477
352 480	507	292
360 482	517	511
361 484	520	515
363 490	524	262
363 496	526	254
363 499	529	208
363 500	532	195
375 505	551	545
376 510	554	549
400 600	560	535
405 600	571	563
406 700	577	111
422 703	600	593
423 706	604	598
423 710	608	588
0 720	623	2*620
440 730	629	620
442 740	640	634
450 770	653	645
452 780	656	651
460 790	669	661
462 800	672	667
0 820	718	713
533 825	738	720
534 830	742	765
563 835	767	745
566 840	777	2*713
0 841	779	773
603 845	798	791
604 850	800	795
610 860	809	2*778
0 861	811	810
632 880	832	2*810
632 890	834	771
635 900	840	705
467 910	685	678
503 930	703	691
505 940	704	700
701 1010	904	615
700 1020	900	845
676 1030	893	857
674 1050	887	856
655 1060	865	859
703 1075	907	885
0 4501	416	415

318	343	384	413	475	498
-----	-----	-----	-----	-----	-----

804	827
-----	-----

890	896	902
-----	-----	-----

SURGE IN USE

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
77	320	I	224 239	76	INSTACK

COMMON BLOCKS	LENGTH	MEMBERS - BYAS NAME(LENGTH)
---------------	--------	-----------------------------

COMMON BLOCKS	LENGTH	MEMBERS - DIAS NAME(LENGTH)
DATA14	1	0 ESTATUS(1)
/	7415	0 HELC (24)
		124 SHIPNAV(32)
		171 REFTR (3)
		224 FTRNAV (12)
		241 WING (2)
		246 MINUTES(1)
		249 JABUFF (640)
		891 JSUR (1)
		896 JPLOT (1)
		965 CX (1)
		968 IRTRCTR(1)
		971 MISSION(1)
		1016 CATUM (5)
		1075 XMADONT(12)
		1163 CURSOR (24)
		1206 TORREC (6)
		1217 EXPCIS (5)
		1279 WEAFTR (5)
		1303 BUOYPM (320)
		1947 NPG (4)
		1953 ISONDAT(32)
		1998 R1 (32)
		2055 ANS (1)
		2061 NOTCH (4)
		2070 MASTRF (64)
		2139 MAXBUOY(1)
		2145 CASSIM(1)
		2151 TAUTOCH(1)
		2172 IHFG (2)
		2182 IACDATT(4)
		2191 IDFX (4)
		2197 CLUTTER(1)
		2200 DELZI (1)
		2203 IROSVMB(1)
		2206 IROFILE(120)
		2358 IRRANGE(1)
		2390 IRRSC (1)
		2393 JpDR (1)
		2396 PHIR (1)
		2399 SF (5)
		2406 XINLSEA(9)
		2425 YPOD (1)
		2428 OCL13 (1)
		2431 SNPHIS (1)
		2434 GMLMDAC(21)
		2465 TR12 (1)
		2508 VFA (21)
		2579 FARAGLM(1)
		2940 ILI9 (1)
		2949 AKFR (1)

MEMBERS - RIAS NAME(LENGTH)

2967 SINB (16)
3015 SIGNAL (512)
4551 ANARR (128)
4712 SANCER (1)
4715 IVERN (64)
4812 ALGAREV (1)
4815 AKFCV (1)
4818 DEFTP (1)
4822 NIURUF (10)
4829 MSPIGUF (40)
4986 MA00ISP (3)
5043 MUXCBUF (17)
5356 KATCBUF (1024)
7405 MSPRIT (1)
7409 TACREAP (1)
7413 SYKSO (2)
0 HELCIC (5)
55 SONCIC (12)
69 JPOINT (1)
72 IOUTB (1)
75 SCY (80)
168 NBUFFMD (1)
171 IERIC (1)
174 ITGSEY (1)
177 BUOYIC (64)
246 ICPIST (1)
0 ISMKNT (1)
3 IATLCAT (1)
6 IMACNT (1)
9 ICURCNT (1)
12 IPONTER (1)
15 ITOPDS (1)
18 ICSDFG (1)
21 IWETP (1)
0 FRKTIME (1)
3 IDATLANK (1)
6 HKTINE (1)
9 IDSFTP (1)
0 HORLIM (1)
0 AMCONS (16)
0 IREFLCM (1)
3 IPEEL (1)
6 IAMAD (1)
35 IEVENT (1)
0 IBFUL1 (13)
0 IXRESR (3)
0 SELFYST (1)

DEFAULT 249

SYMFLG 22

TACFLGS 12

HOPIZN
CONST 16
MAD 39

BUFFLAG 26
ERFLAG 3
SELF 1

STATISTICS

PROGRAM LENGTH 10758 573
COMMON LENGTH 5628 370
PLANK COMMON 163678 7415

2983 SIG (16)
3527 CCSD (512)
4679 FI (72)
4713 CVPANGE (1)
4779 PLOG (32)
4813 ALGTWC (1)
4816 ION (1)
4819 KVALFIP (1)
4832 NIURUF (17)
4929 MSPRIGUF (17)
4989 IDSPACU (4)
5060 MUXAGUF (256)
6380 KSCBUE (1024)
7406 MUXBIT (2)
7410 ITACVAL (1)
5 TARGIC (76)
67 IRECFIL (1)
70 NPI (1)
73 NRC (1)
155 NACA (12)
169 WHEN (1)
172 IOC2ERR (1)
175 DELXIC (1)
241 DAIUMIC (4)
247 MOESIM (1)
1 IFTPCNT (1)
4 IDFRONT (1)
7 ICONTNT (1)
10 YFIXCNT (1)
13 IDATUM (1)
16 IPROPOS (1)
19 IHFLDUR (1)
1 IMLCNL (1)
4 IPATCOB (1)
7 IONTORPE (1)
10 ICYODS (1)
1 ROLD (1)
4 AMAD (1)
7 MADFLG (1)
36 EVENTIM (1)
13 IBFUL2 (13)

41 OANSIC (149)
58 JKRUN (1)
71 IAG (1)
74 NESI7 (1)
167 NRCM (1)
170 IDECEP (1)
173 IFR2C (1)
176 DELXIC (1)
245 ISCALIC (1)
248 ICDTMS (1)
2 IPEFCNT (1)
5 ICASCT (1)
4 ICRCNT (1)
11 IONTCF (1)
14 ISNFCDS (1)
17 IEXFCNT (1)
20 INCFDGG (1)
2 IMELCCP (1)
5 THKVEFF (1)
8 NREHCCF (1)
11 WSKALRT (1)

2 NCCSE (1)
5 GAIN (1)
8 AMARDET (27)
37 EVENT (2)

6

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222

MSD

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x

MSD

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954

DSM

252

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MSF

MSD

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DS in

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WSB

NSP


```

C-----
C SUBROUTINE MSPPACK(N,SOURCE,LSB,RESULT)
C-----
C
C 5      ABSTRACT
C        THIS ROUTINE PACKS A REAL INTO A BINARY OF REQUESTED SIZE
C
C 10     N - NUMBER OF BITS IN RESULT
C
C        SOURCE - REAL VALUE TO BE PACKED
C
C        LSB - REAL VALUE OF LEAST SIGNIFICANT BINARY BIT IN RESULT
C
C        RESULT - BINARY OUTPUT WORD
C
C 15     CODING HISTORY
C        1. PROGRAMMED--ALEX PCOLECKI      10/26/77
C
C        END OF ABSTRACT
C-----
C
C SUBROUTINE MSPPACK(N,SOURCE,LSB,RESULT)
C
C 25     INTEGER RESULT
C        REAL LSB, SOURCE
C        WORK = ABS(SOURCE)
C        RESULT = 0
C        CALCULATE VALUE OF MOST SIGNIFICANT BIT
C        FACTOR = LSB * FLOAT(1,SHIFT(N-1))
C 30     DO WHILE MORE BITS REQUIRED IN RESULT
C        DO 100 I=1,N
C        SHIFT PREVIOUS RESULT OVER ONE BIT
C        RESULT = SHIFT(RESULT, 1)
C        DETERMINE IF NEXT BIT SHOULD BE SET
C        NEXT = WORK/FACTOR
C        MERGE IN WITH PREVIOUS RESULT
C        RESULT = OR(RESULT, NEXT)
C        CALCULATE REMAINDER FROM SOURCE VALUE
C        WORK = WORK - FLOAT(NEXT)*FACTOR
C        CALCULATE VALUE OF NEXT BIT
C        FACTOR = FACTOR/2.0
C 40     100 CONTINUE
C        ENDDO
C        RETURN
C        END
C 45

```

MSPP 871
MSPP 872
MSPP 873
MSPP 874
MSPP 875
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MSPP 880
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MSPP 907
MSPP 908
MSPP 909
MSPP 910
MSPP 911
MSPP 912
MSPP 913
MSPP 914
MSPP 915

AD-A059 756

COMPUTER SCIENCES CORP HUNTINGDON VALLEY PA
LAMPS SEAS SIMULATION SOFTWARE SUPPORT. APPENDIX I.(U)
JUN 78

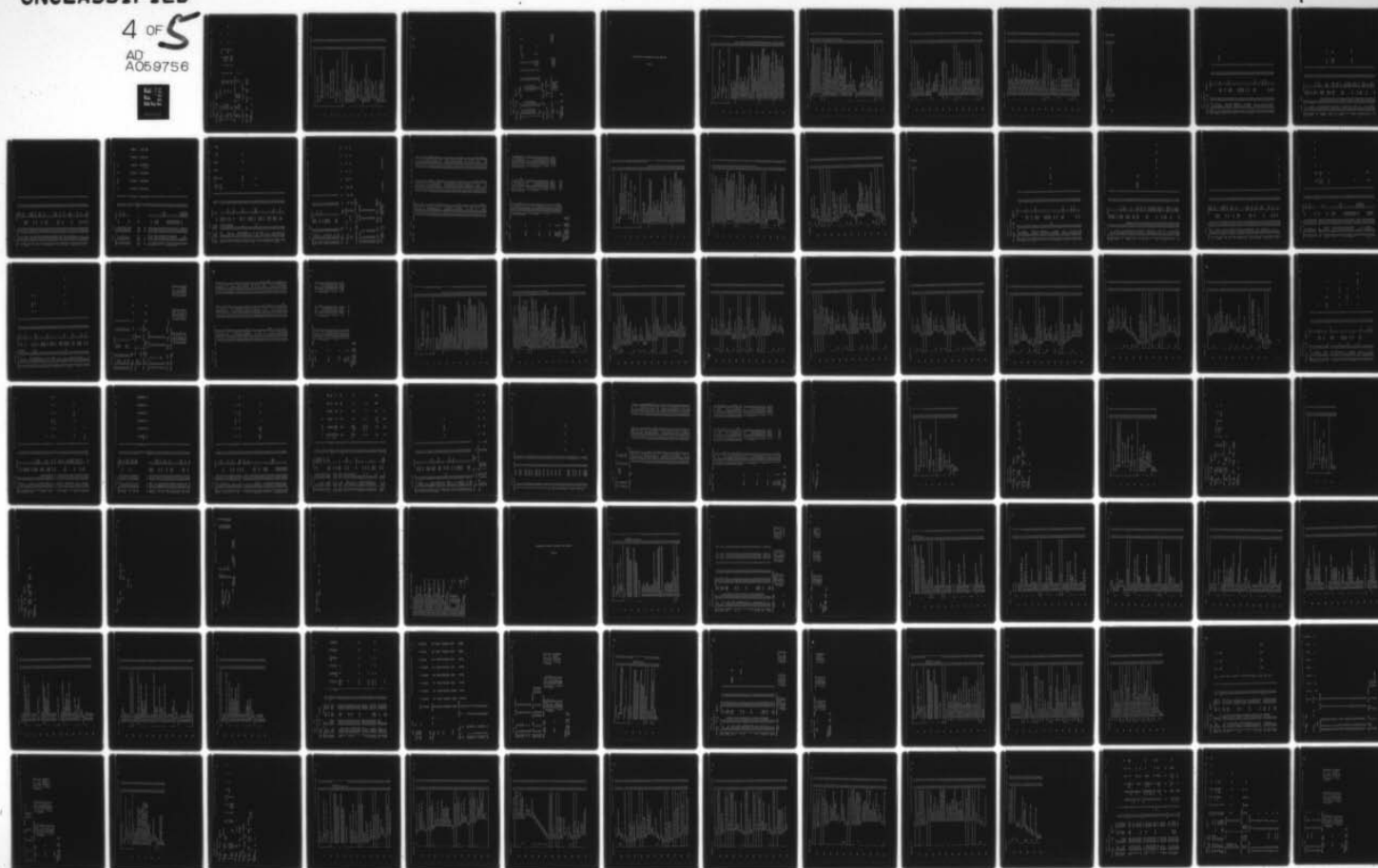
F/G 15/1

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UNCLASSIFIED

4 OF 5
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SUB LINE LOCATE

RETURN
END

CCC 6600 IN V3.0-F380 OPT=1 7/1/06/12. 15.45.22.

MSP 971
MSP 972

PAGE

2

SUBR LINE LOCATE

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES
2 LOCATE	25	56

VARIABLES	SN	TYPE	RELOCATION	ARRAY	CONST	REFS
0 AMCONS	REAL					28
50 GRPLAT	REAL					35
51 GRPLONG	REAL					46
0 ISLAT1	INTEGER					26
1 ISLAT2	INTEGER					26
2 ISLAT3	INTEGER					26
6 ISLAT4	INTEGER					26
3 ISLON1	INTEGER					26
4 ISLON2	INTEGER					26
5 ISLON3	INTEGER					26
7 ISLON4	INTEGER					26
0 X	REAL					52
0 Y	REAL					54
0 ZLAT	REAL					54
0 ZLONG	REAL					54

EXTERNALS	TYPE	ARGS	REFERENCES
COS	REAL	1 LIBRARY	54

STATEMENT LABELS	DEF LINE	REFERENCES
16 10	38	32
30 20	49	43

COMMON BLOCKS	LENGTH	MEMBERS - BIAS NAME(LENGTH)
LATLONG	8	0 ISLAT1(1) 3 ISLON1(1) 6 ISLAT4(1) 0 AMCONS (16)
CONST	16	

STATISTICS	PROGRAM LENGTH	528	42
COMMON LENGTH <td>308</td> <td>24</td> <td></td>	308	24	

DEF LINE	REFERENCES	DEF LINE	REFERENCES
54	54	54	54
52	54	54	54
54	54	54	54
30	54	54	54
30	54	54	54
32	54	54	54
41	54	54	54
41	54	54	54
41	54	54	54
43	54	54	54
25	54	54	54
25	54	54	54
25	54	54	54
52	54	54	54
54	54	54	54
54	54	54	54
25	54	54	54

DEF LINE	REFERENCES
1 ISLAT2(1)	2 ISLAT3(1)
4 ISLON2(1)	5 ISLON3(1)
7 ISLON4(1)	

NAVIGATION INTERFACE UNIT MODULE

(NIU)

COC 6600 FTA V3.0-PI30 OPT=1 78/06/12. 15.46.13.

```

C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPRIME,AZSCNLM,CLUTTER,DELXI,DELYI,DELZI,OLIPHAR,
* GRAZANG,IRUSYMB,ICFAR,IFERSIS,IRDFILE(120),IRORDEC(31),IRORDIX,
$ IRORMFE,IRDSIZE,ISETURN(30),IPOFSC,ISEASTE,ITGIN,
* JFDP,NPD,PD,PHIR,RCNOISS,PFENGW,SF(5),SIGMA,SICMAO,
* XINLSA(9),VINLSA(9),XSN,YPP,XPDCTF,YPDCTF,DCL13,DCL23,
* DCL33,SNPHIR,CSPHIR,CSXLDZI,GNLMQAC(21),RADCPDS(9),
* ,KDDPCYC,TI12,M3(21),XFA(21),YFA(21),ISIZF,XFAIL(9),FARGLM
C-----ESM TABLES
COMMON IEMIT(100,3),ITEKFIL(100),ILIR,INTVESH(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON/TOCTAVE(4),AKFR,NUM3IN,COSR(16),SINR(16),SIG(16),NOIS(16),
X SIGNAL(16,8,4),COSD(16,8,4),SIND(16,8,4),ANARP(16,8),FI(8,4),
X AOU,SANGFOR,CVRANGE,KFSVTHR,
X IVERN(2,8,4),FPROG(4,4),ALGAKFR,ALGAKFRV,ALGTWC,IFRANC,AKFRV
COMMON // ION, GAMMAS, 9FRTF, KVALFTP, YDAM(2)
COMMON /HORIZM/ HORLIM
COMMON /CONST/ AMCONS(16)
COMMON // NIUBUF(10), NIUBUF(17), NIUBUF(40),
* MSPIBUF(40), MSP0BUF(17), MSPIBUF(40)
* , MADDISP(3), IDSEAFU(4), MUXIBUF(50), MUXORUF(17)
* , MUXARUF(256), MUXTRUF(42), KAT0RUF(1024), KSORUF(1024)
* , NIUBIT, MSPBIT, MUXBIT(2)
* , TACRANG, TACBEAR, ITACVAL, SYKAT0(2), SYKSO(2)
COMMON /INDISC/ IATOTOG(12)
COMMON/BUFLAGS/IBFUL(13),IBFUL2(13)
COMMON /ERRFLAG/ IYFRERR(3),SELFYST
INTEGER SELFYST
DATA KEND /10/
70 ZERO INPUT BUFFER
C 70 WHILE ANOTHER INPUT BUFFER WORD AVAILABLE
C DO 50 K=1,KEND
C INSERT ZERO WORD
NIUBUF(K) = 0
50 CONTINUE
C ENDDO
K = 1
PPINTON = .TRUE.
DEGREES TO RADIAN
AMCONS(15) = ASIN(1.0)/90.0
C NO INITIAL FAULTS
NIUBIT = 0
C INITIALIZE CP,PP DATA AVAILABLE WORDS
IDAM(1) = IDAM(2) = 0
C INITIALIZE STATUS/DATA SENT FLAGS
IBFUL(5)=IBFUL2(5)=0
C SELECT TACAN FOR PILCT/ATO
IATOTOG(1) = 2
C-----
C RESPONSE TO NO COMMAND
C-----
PRINT 100
100 FORMAT(*1,10(*-*),* RESPONSE TO NO COMMAND *,10(*-*))
CALL XNIO( K, KEND)
C-----
110

```

```

115      C      SELF-TEST SEQUENCE
116      C-----
117      PRINT 200
118      200 FORMAT(*1*,10(*-*),* SELF-TEST SEQUENCE *,10(*-*))
119      C      KOLD = K
120      C      INSERT INITIATE SELF-TEST INTO INPUT BUFFER
121      C      NIUIRUF(K) = 70003B
122      C      CALL ADVANCE(K, KEND)
123      C      EXECUTE NIU
124      C      CALL XNIU( KOLD, KEND)
125      C      J = 0
126      C      KOLD = K
127      C      PPINYN = .FALSE.
128      C      NIUIRUF(2) = 0
129      C      DO WHILE NIUI APPEARS TO BE BUSY
130      C      210 CONTINUE
131      C      J = J + 1
132      C      EXECUTE NIUI
133      C      NIUIRUF(1) = 0
134      C      CALL XNIU( KOLD, KEND)
135      C      IF (SELFTEST.GT.D) GO TO 210
136      C      ENDDO
137      C      PPINYN = .TRUE.
138      C      PRINT 300, J
139      C      300 FORMAT(*0*,20(*-*),15,* ITERATIONS LATE*)
140      C      INSERT TRANSMIT BIT STATUS INTO INPUT BUFFER
141      C      PRINT 310
142      C      310 FORMAT(*0*,20(*-*),* TRANSMIT BIT STATUS*)
143      C      KOLD = K
144      C      NIUIRUF(K) = 70100B
145      C      CALL ADVANCE(K, KEND)
146      C      EXECUTE NIU
147      C      CALL XNIU( KOLD, KEND)
148      C-----
149      C      INITIALIZATION SEQUENCE
150      C-----
151      C      PRINT 400
152      C      400 FORMAT(*1*,10(*-*),* INITIALIZATION SEQUENCE *,10(*-*))
153      C      KOLD = K
154      C      INSERT INITIALIZE TERMINAL INTO INPUT BUFFER
155      C      NIUIRUF(K) = 70001B
156      C      CALL ADVANCE(K, KEND)
157      C      INSERT TRANSMIT BIT STATUS INTO INPUT BUFFER
158      C      NIUIRUF(K) = 70100B
159      C      CALL ADVANCE(K, KEND)
160      C      INSERT INITIATE PROCESSING INTO INPUT BUFFER
161      C      NIUIRUF(K) = 70004B
162      C      CALL ADVANCE(K, KEND)
163      C      EXECUTE NIU
164      C      CALL XNIU( KOLD, KEND)
165      C-----
166      C      DATA TRANSFER SEQUENCE
167      C-----
168      C      PRINT 500
169      C      500 FORMAT(*1*,10(*-*),* DATA TRANSFER SEQUENCE *,10(*-*))

```

```

52      NIUC
53      NIUC
54      NIUC
55      NIUC
56      NIUC
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105      NIUC
106      NIUC

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```
170 C      KOLD = K
      NORMAL DATA TRANSFER OF 6 WORDS
      NIUBUF(K) = 700468
      CALL ADVANCE(K, KEND)
      WORD 1 - TACTICAL RANGE = 1.8078125 MILES
      NIUBUF(K) = 4039
      CALL ADVANCE(K, KEND)
      WORD 2 - TACTICAL BEARING = 180.010986
      NIUBUF(K) = 1000036
      CALL ADVANCE(K, KEND)
      WORD 3 - DRIFT ANGLE = 90.010986
      NIUBUF(K) = 400028
      CALL ADVANCE(K, KEND)
      WORD 4 - PILOTS HEADING = 180.0
      NIUBUF(K) = 1000008
      CALL ADVANCE(K, KEND)
      WORD 5 - ATOS HEADING = 180.0
      NIUBUF(K) = 1000008
      CALL ADVANCE(K, KEND)
      WORD 6 - CONTROL DATA WORD
      NIUBUF(K) = 1777778
      CALL ADVANCE(K, KEND)
      INSERT TRANSMIT BIT STATUS COMMAND INTO BUFFER
      NIUBUF(K) = 701008
      CALL ADVANCE(K, KEND)
      EXECUTE NIUI
      CALL XNUI(KOLD, KEND)
      C-----
      C REQUEST DATA TRANSFER SEQUENCE
      C-----
      PRINT 510
      510 FORMAT('0',20('*-*'),* REQUEST DATA TRANSFER *)
      KOLD = K
      C INSERT REQUEST FOR DATA INTO INPUT BUFFER
      NIUBUF(K) = 720428
      CALL ADVANCE(K, KEND)
      EXECUTE NIU
      CALL XNUI(KOLD, KEND)
      PRINT 520
      520 FORMAT('0',20('*-*'),* NULL INPUT *)
      KOLD = K
      C EXECUTE NIU WITH NULL INPUT 5 TIMES
      CALL XNUI(KOLD, KEND)
      CALL XNUI(KOLD, KEND)
      CALL XNUI(KOLD, KEND)
      CALL XNUI(KOLD, KEND)
      CALL XNUI(KOLD, KEND)
      C-----
      C ERROR PROCESSING SECTION
      C-----
      PRINT 600
      600 FORMAT('1',10('*-*'),* DOPPLER FAULT BIT SET *,10('*-*'))
      KOLD = K
      C SET COPPLER FAULT BIT
      NIUBIT = OR( NIUBIT, 1)
      C-----
```


PROGRAM

NILCRIV

CDC 6600 FIN V1.0-P380 OPT=1

7P/06/12, 15.46.13.

PAGE

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C EXECUTE NIU1
CALL XNIU1 KOLD, KEND)
C-----
C END OF PROGRAM
C-----
STOP 1
END

NIUF 162
NIUF 163
NIUF 164
NIUF 165
NIUF 166
NIUF 167
NIUF 168

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SYMBOLIC REFERENCE MAP

ENTRY POINTS 2025 NIUDRIV

DEF LINE

16

REFERENCES

VARIABLES SN TYPE RELOCATION

4223	ACPRIME	REAL	/	/	REFS	57
5605	AKPR	REAL	/	/	REFS	67
11317	AKPRV	REAL	/	/	REFS	67
11313	ALGAKFR	REAL	/	/	REFS	67
11314	ALGAKFV	REAL	/	/	REFS	67
11315	ALGTWO	REAL	/	/	REFS	67
0	AMCONS	REAL	AFR	CONST	REFS	73
10707	ANARR	REAL	AFR	ARRAY	REFS	67
4007	ANS	REAL	/	/	REFS	49
11147	AOU	REAL	/	/	REFS	67
1754	ATOREF	REAL	/	/	REFS	38
4224	AZSCNLM	REAL	AFR	ARRAY	REFS	57
11322	BERFTP	REAL	/	/	REFS	71
261	BUOYIC	REAL	AFR	DEFAULT	REFS	31
3127	BUOYNV	REAL	AFR	ARRAY	REFS	49
2427	BUOYRW	REAL	AFR	ARRAY	REFS	49
4010	C	REAL	/	/	REFS	49
4142	CASSPER	REAL	/	/	REFS	49
4141	CASSTIM	REAL	/	/	REFS	49
4225	CLUTTER	REAL	/	/	REFS	57
160	COMNAV	REAL	AFR	ARRAY	REFS	20
2077	CONAC	REAL	AFR	ARRAY	REFS	38
243	CONVOY	REAL	AFR	ARRAY	REFS	20
5607	COSR	REAL	AFR	ARRAY	REFS	67
6707	COSD	REAL	AFR	ARRAY	REFS	67
4600	CSPHIP	REAL	/	/	REFS	57
2033	CSPOCR	REAL	AFR	ARRAY	REFS	38
4601	CSXLOZI	REAL	/	/	REFS	57
2213	CUSOR	REAL	AFR	ARRAY	REFS	38
11151	CVPANGE	REAL	/	/	REFS	67
1705	CX	REAL	/	/	REFS	20
1706	CY	REAL	/	/	REFS	20
1770	DATUM	REAL	AFR	ARRAY	REFS	38
361	DATUMIC	REAL	AFR	DEFAULT	REFS	31
4574	DCL13	REAL	/	/	REFS	57
4575	DCL23	REAL	/	/	REFS	57
4576	DCL33	REAL	/	/	REFS	57
3701	DELTS	REAL	/	/	REFS	49
4226	DELXI	REAL	/	/	REFS	57
257	DELXTIC	REAL	/	DEFAULT	REFS	31
4227	DELYI	REAL	/	/	REFS	57
260	DELYTIC	REAL	/	DEFAULT	REFS	31
4230	DEL7I	REAL	/	/	REFS	57
1775	DIFAR	REAL	AFR	ARRAY	REFS	38
4231	DLTPHIP	REAL	/	/	REFS	57
2301	FXPCIR	REAL	AFR	ARRAY	REFS	38
4753	FARNGLM	REAL	/	/	REFS	57
11107	FI	REAL	AFR	ARRAY	REFS	67

DEFINED 95

VARIABLES	SN	TYPE	RELOCATION	REFS	DEFINITION	103	101	2*99
2244	FIXDES	REAL	ARRAY	REFS				
11253	FRLOG	REAL	ARRAY	REFS				
355	FTPE	REAL	ARRAY	REFS				
340	FTPNV	REAL	ARRAY	REFS				
11321	GAMMAS	REAL	ARRAY	REFS				
4602	GMLMDAC	REAL	ARRAY	REFS				
4232	GRAZANG	REAL	ARRAY	REFS				
0	HELO	REAL	ARRAY	REFS				
0	HELOIC	REAL	ARRAY	REFS				
256	HELOST	REAL	ARRAY	REFS				
6	HKTIME	REAL	ARRAY	REFS				
0	MORLIM	REAL	ARRAY	REFS				
4126	IAAGPMD	INTEGER	ARRAY	REFS				
4202	IACDATX	INTEGER	ARRAY	REFS				
4206	IACDATY	INTEGER	ARRAY	REFS				
4140	IACSTS	INTEGER	ARRAY	REFS				
3	IATLONT	INTEGER	ARRAY	REFS				
0	IATOTOG	INTEGER	ARRAY	REFS				
363	IAUTMAD	INTEGER	ARRAY	REFS				
4143	IAUTO	INTEGER	ARRAY	REFS				
4147	IAUTOCH	INTEGER	ARRAY	REFS				
0	IBFUL1	INTEGER	ARRAY	REFS				
15	IBFUL2	INTEGER	ARRAY	REFS				
4216	IRYOYNT	INTEGER	ARRAY	REFS				
5	ICASCNT	INTEGER	ARRAY	REFS				
370	ICDTMDS	INTEGER	ARRAY	REFS				
4234	ICFAR	INTEGER	ARRAY	REFS				
366	ICFIRST	INTEGER	ARRAY	REFS				
3627	ICH	INTEGER	ARRAY	REFS				
4176	ICHNDAT	INTEGER	ARRAY	REFS				
7	ICONCNT	INTEGER	ARRAY	REFS				
22	ICSRDFG	INTEGER	ARRAY	REFS				
11	ICURCNT	INTEGER	ARRAY	REFS				
12	ICYCDS	INTEGER	ARRAY	REFS				
3	IDATLTK	INTEGER	ARRAY	REFS				
15	IDATUM	INTEGER	ARRAY	REFS				
11324	IDAW	INTEGER	ARRAY	REFS				
254	IDC2EP	INTEGER	ARRAY	REFS				
252	IDEGEP	INTEGER	ARRAY	REFS				
4	IDFRONT	INTEGER	ARRAY	REFS				
4217	IDFX	INTEGER	ARRAY	REFS				
11	IDSFIP	INTEGER	ARRAY	REFS				
11575	IDSPACU	INTEGER	ARRAY	REFS				
4754	IEMIT	INTEGER	ARRAY	REFS				
253	IEP1C	INTEGER	ARRAY	REFS				
255	IEP2C	INTEGER	ARRAY	REFS				
21	IEXPONT	INTEGER	ARRAY	REFS				
4742	IFAIL	INTEGER	ARRAY	REFS				
12	IFIXCNT	INTEGER	ARRAY	REFS				
11316	IFRAND	INTEGER	ARRAY	REFS				
1	IFTPCNT	INTEGER	ARRAY	REFS				
2	IHELCO	INTEGER	ARRAY	REFS				
23	IHELCOU	INTEGER	ARRAY	REFS				
4174	IMFG	INTEGER	ARRAY	REFS				

VARIABLES	SN	TYPE	RELOCATION	REFS	46
5	INXVERF	INTEGER	TACFLGS	REFS	46
1	INLCNTL	INTEGER	TACFLGS	REFS	46
5574	ILIB	INTEGER	REFS	REFS	65
6	IMADCNT	INTEGER	SYMFLG	REFS	42
107	IN9	INTEGER	DEFAULT	REFS	31
4321	INTGTM	INTEGER	REFS	REFS	49
5575	INTVSM	INTEGER	REFS	REFS	65
5631	IOCTAVE	INTEGER	REFS	REFS	67
11320	ION	INTEGER	REFS	REFS	71
13	IONICP	INTEGER	REFS	REFS	42
7	IONOPF	INTEGER	SYMFLG	REFS	46
110	ICUTB	INTEGER	TACFLGS	REFS	31
4150	IPASOUT	INTEGER	DEFAULT	REFS	49
4	IPATCOR	INTEGER	TACFLGS	REFS	46
1632	IPCDEC	INTEGER	REFS	REFS	20
4235	IPERSIS	INTEGER	REFS	REFS	57
14	IPONTER	INTEGER	SYMFLG	REFS	42
20	IPOPPOS	INTEGER	SYMFLG	REFS	42
4212	IPSVCLR	INTEGER	REFS	REFS	49
1577	IPTCGRP	INTEGER	REFS	REFS	20
10	IRCRCNT	INTEGER	REFS	REFS	57
4236	IRDFILE	INTEGER	SYMFLG	REFS	57
4426	IRDRDEC	INTEGER	REFS	REFS	57
4465	IRDRIDC	INTEGER	REFS	REFS	57
4466	IRDRIDE	INTEGER	REFS	REFS	57
4526	IRDRSC	INTEGER	REFS	REFS	57
4467	IRDSIZE	INTEGER	REFS	REFS	57
4233	IRDSYMB	INTEGER	REFS	REFS	57
103	IRECFIL	INTEGER	DEFAULT	REFS	31
2	IREFONT	INTEGER	SYMFLG	REFS	42
4470	IRETURN	INTEGER	REFS	REFS	57
4134	IRFCH	INTEGER	REFS	REFS	49
24	IRNGFDDG	INTEGER	REFS	REFS	42
1710	IRPTCTR	INTEGER	REFS	REFS	20
3746	IR2	INTEGER	REFS	REFS	49
365	ISCALIC	INTEGER	DEFAULT	REFS	31
4527	ISEASTE	INTEGER	REFS	REFS	57
4025	ISELBY	INTEGER	REFS	REFS	49
4741	ISIZE	INTEGER	REFS	REFS	57
0	ISMKCN	INTEGER	SYMFLG	REFS	42
16	ISNSFQS	INTEGER	SYMFLG	REFS	42
3641	ISONOAT	INTEGER	REFS	REFS	49
4132	ISCNCLN	INTEGER	REFS	REFS	49
16362	ITACVAL	INTEGER	REFS	REFS	74
1571	ITGCNT	INTEGER	REFS	REFS	20
256	ITGDET	INTEGER	REFS	REFS	31
4530	ITGIN	INTEGER	DEFAULT	REFS	57
4011	ITHR	INTEGER	REFS	REFS	49
17	ITORDS	INTEGER	REFS	REFS	42
5430	ITRKFIL	INTEGER	SYMFLG	REFS	65
370	ITUNE	INTEGER	REFS	REFS	20
11153	IVERN	INTEGER	REFS	REFS	67
25	IWFTP	INTEGER	SYMFLG	REFS	42
0	IXFRERR	INTEGER	ERRFLAG	REFS	82

VARIABLES SN TYPE RELOCATION

VARIABLES	SN	TYPE	RELOCATION
2325 J		INTEGER	
371 JABUFF		INTEGER	127 20
104 JKRUN		INTEGER	REFS 31
1572 JOWN		INTEGER	REFS 20
1600 JPLOT		INTEGER	REFS 20
105 JPRINT		INTEGER	REFS 31
4531 JPRD		INTEGER	REFS 57
1601 JPSET		INTEGER	REFS 20
1573 JSUB		INTEGER	REFS 20
4154 JTRCE		INTEGER	REFS 49
2323 K		INTEGER	
12354 KATORBUF		INTEGER	109 115 117 121 127
2236 KEND		INTEGER	149 151 152 154 155 157 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999

RELOCATION

PROGRAM NIUCRIV

VARIABLES SN TYPE

365	NHOURS	INTEGER	20	REFS	220	DEFINED	97	220	10
16354	NIURIT	INTEGER	74	REFS	171	89	117	140	151
11326	NIURIBUF	INTEGER	74	REFS	174	174	177	180	183
			168	REFS					154
			200	REFS					186
11340	NIURUF	INTEGER	74	REFS	124				
11361	NIURUF	INTEGER	74	REFS	129				
5667	NOIS	INTEGER	67	REFS					
4015	NOTCH	INTEGER	49	REFS					
4532	NPD	INTEGER	57	REFS					
3633	NPNG	INTEGER	49	REFS					
10	NPFHCOOR	INTEGER	46	REFS					
3702	NRNGCNT	INTEGER	49	REFS					
367	NSECS	INTEGER	20	REFS					
5606	NUMBIN	INTEGER	67	REFS					
51	OWNSIC	REAL	31	REFS					
4533	PD	REAL	57	REFS					
4534	PHIR	REAL	57	REFS					
1711	PLOTX7R	REAL	20	REFS					
1712	PLOTY7R	REAL	20	REFS					
2277	POINTER	REAL	38	REFS					
2274	PREDPOS	REAL	38	REFS					
0	PRINTON	LOGICAL	17	REFS					
4627	RADCROSS	REAL	57	REFS					
4535	RCNOISE	REAL	57	REFS					
4536	RDENGNM	REAL	57	REFS					
1714	REFMLL	REAL	38	REFS					
253	REFTP	REAL	20	REFS					
2173	ONGCIP	REAL	38	REFS					
3706	P1	REAL	49	REFS					
11150	SANGERR	REAL	67	REFS					
113	SC1	REAL	31	REFS					
3	SELFST1	INTEGER	83	REFS					
2243	SENSHOR	REAL	38	REFS					
4537	SF	REAL	57	REFS					
232	SHIPCOM	REAL	20	REFS					
174	SHIPNAV	REAL	20	REFS					
2404	SHPTIRKU	REAL	33	REFS					
5647	SIG	REAL	67	REFS					
4544	SIGMA	REAL	57	REFS					
4545	SIGMA0	REAL	57	REFS					
5707	SIGNAL	REAL	67	REFS					
5627	SINB	REAL	67	REFS					
7707	SIND	REAL	67	REFS					
4577	SNPHIP	REAL	57	REFS					
67	SONOIC	REAL	31	REFS					
16363	STKATO	REAL	74	REFS					
16365	STKSO	REAL	74	REFS					
16361	TACBEAR	REAL	74	REFS					
16360	TACBRANG	REAL	74	REFS					
5	TARGIC	REAL	31	REFS					
30	TARGNAV	REAL	20	REFS					
354	TIME	REAL	20	REFS					
1707	TIMEICK	REAL	20	REFS					

VARIABLES SN TYPE RELOCATION

2266	TORPED	REAL	ARRAY	107	113	134	137	147	164	196	204
2311	TRACKS	REAL	ARRAY	107	113	134	137	147	164	196	204
2405	TRKSHIP	REAL	ARRAY	107	113	134	137	147	164	196	204
4641	TRKTIME	REAL	ARRAY	107	113	134	137	147	164	196	204
2377	WEAFTP	REAL	ARRAY	107	113	134	137	147	164	196	204
251	WHEN	REAL	ARRAY	107	113	134	137	147	164	196	204
361	WIND	REAL	ARRAY	107	113	134	137	147	164	196	204
3637	X300YDR	REAL	ARRAY	107	113	134	137	147	164	196	204
4667	XFA	REAL	ARRAY	107	113	134	137	147	164	196	204
4546	XINLSEA	REAL	ARRAY	107	113	134	137	147	164	196	204
2063	XHADCNT	REAL	ARRAY	107	113	134	137	147	164	196	204
2306	XONTOP	REAL	ARRAY	107	113	134	137	147	164	196	204
4572	XROCNTR	REAL	ARRAY	107	113	134	137	147	164	196	204
4570	XSN	REAL	ARRAY	107	113	134	137	147	164	196	204
4571	Y8PD	REAL	ARRAY	107	113	134	137	147	164	196	204
3640	Y300YDR	REAL	ARRAY	107	113	134	137	147	164	196	204
4714	VFA	REAL	ARRAY	107	113	134	137	147	164	196	204
4557	VINLSFA	REAL	ARRAY	107	113	134	137	147	164	196	204
4573	YROCNTR	REAL	ARRAY	107	113	134	137	147	164	196	204

FILE NAMES MODE FMT

0	OUTPUT	FMT	216
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EXTERNALS TYPE ARGS REFERENCES

ADVANCE	2	118	141
ASIN	1	181	184
XNTU	2	95	120
		109	211
		210	212

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES

OR	NO TYPE	2	INTRIN	220
----	---------	---	--------	-----

STATEMENT LABELS DEF LINE REFERENCES

0	50	FMT	90	87
2237	100	FMT	108	107
2245	200	FMT	114	113
2063	210	FMT	126	131
2253	300	FMT	135	134
2260	310	FMT	138	137
2265	400	FMT	148	147
2273	500	FMT	165	164
2301	510	FMT	197	196
2306	520	FMT	205	204
2312	600	FMT	217	216

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES

2030	50	K	97	90	28	INSTACK
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COMMON BLOCKS LENGTH

NIUCRIV	1	7415
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MEMBERS - BIAS NAME(LENGTH)

0	PRINTCN(1)
0	HELC (124)

COC 6600 STN V3-0-030 CRT=1 78/06/12. 15.46.13.

COMMON BLOCKS LENGTH MEMBERS - RTAS NAME(LENGTH)

124 SHIPNAV(30)	154 SHIPCOM(9)	163 CONVOY (1)
171 REFTE (3)	174 HFOST (30)	204 NAV (20)
224 FIPNAV (12)	235 TIME (1)	237 FIP (4)
241 WIND (2)	243 IATIMAD(2)	245 HOURS (1)
246 MINUTES(1)	247 NCEOS (1)	248 ITUNE (1)
249 JABUFF (640)	689 ITGONT (1)	800 JCN (1)
691 JSUB (1)	892 HADAUIC(3)	895 IPTCOR(1)
896 PILOT (1)	897 JRESET (1)	898 IPOREC (67)
965 CX (1)	966 CY (1)	967 YTMICK(1)
968 IPIOTIP(1)	969 PLOTXZRL(1)	970 PLOTY7P(1)
971 MISSION(1)	972 RFFMLL (32)	1004 ATORF (12)
1016 DATUM (5)	1021 DIFAP (30)	1051 CSFCOP (24)
1075 XMACCNT(12)	1087 CONTAC (60)	1147 RAGCIE (16)
1163 CURSOR (24)	1167 SENSOR(1)	1188 FIXCES (18)
1206 TORFET (6)	1212 PRFPOS(3)	1215 PCINTER(2)
1217 EXPCIR (5)	1222 XONTOP (3)	1225 TRACKS (54)
1279 WEAFY (5)	1284 SHPTPKU(1)	1285 TCKSHF(18)
1303 BUOYRA (320)	1623 BUCYNAV(320)	1943 ICH (4)
1947 NONG (4)	1951 XOUYCP(1)	1952 YBUCYCP(1)
1953 ISONDAT (32)	1985 DFLTS (1)	1986 NONGCNT(4)
1990 P1 (32)	2022 I92 (32)	2054 LL (1)
2035 ANS (1)	2056 C (1)	2057 ITHF (4)
2061 NOTCH (4)	2065 INTGTM(4)	2069 ISFLAY (1)
2070 MASTPE (64)	2134 IAAGPHD(4)	2138 ISONLN(1)
2139 MAXRUCY(1)	2140 IFFCH (4)	2144 IACSTL (1)
2145 CASSTIM(1)	2146 CASSPER(1)	2147 IAUTO (4)
2151 IAUOTCH(1)	2152 IPASOUT(4)	2156 JTRCF (16)
2172 IHFPG (2)	2174 ICHNDAT(4)	2178 IACCATX(4)
2182 IACRATY(4)	2186 IPSVCLD(4)	2190 IBOYCNT(1)
2191 IDFX (4)	2195 ACPRIME(1)	2196 A7SCNLM(1)
2197 CLUTTER(1)	2198 DFLYI (1)	2199 DELYI (1)
2200 DELZI (1)	2201 OLYPHIR(1)	2202 GA7ANG(1)
2203 IRDSYMR(1)	2204 ICFAP (1)	2205 IFFRSIS(1)
2206 IRDFILE(120)	2326 IEDDEC(31)	2357 IRDFICX(1)
2358 IRDPDE(1)	2359 IRDSIZ(1)	2360 IFEIUPN(30)
2390 IROPSC (1)	2391 ISEASTE(1)	2392 YTGNT (1)
2393 JPDG (1)	2394 NPD (1)	2395 FC (1)
2396 PHIR (1)	2397 FCNOISE(1)	2398 RBRNGNM(1)
2399 SF (5)	2404 SIGMA (1)	2405 STGMAC (1)
2406 XINLSEA(9)	2415 YINLSEA(9)	2424 XSN (1)
2425 Y8PC (1)	2426 XEDCNTR(1)	2427 YEDCNTR(1)
2428 DCL13 (1)	2429 XCL23 (1)	2430 XCL33 (1)
2431 SNPHIC (1)	2432 CSPHIP (1)	2433 CSXLO7I(1)
2434 GMLPDAC(21)	2435 PADCRS(9)	2464 KEDRCYC(1)
2465 TP12 (1)	2466 M3 (21)	2487 YFA (21)
2508 YFA (21)	2529 ISIZE (1)	2530 IFAIL (9)
2539 FARAGLM(1)	2540 IEMT (300)	2840 YTRKFL(100)
2940 ILIR (1)	2941 INTYESM(4)	2945 ICCIATVE(4)
2949 AKFR (1)	2950 NUMBIN (1)	2951 COSP (16)
2967 SINR (16)	2993 SIG (16)	2999 NCIS (16)
3015 SIGNAL (512)	3527 COSO (512)	4019 SYND (512)
4551 ANAPR (128)	4679 FI (32)	4711 ACU (1)
4712 SANGERR(1)	4713 CVPANCE(1)	4714 KPSVTF(1)
4715 IVERN (64)	4779 FRLG (32)	4811 ALGAKFR(1)

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

4312 ALGAKFV(1)
 4315 AKSEV (1)
 4318 REPTF (1)
 4322 NIUBUF(10)
 4329 MSPBUF(40)
 4336 MADDISP(3)
 5043 MUXOBUF(17)
 5356 KATCRUF(1024)
 7405 MSPBIT (1)
 7409 TACREAP(1)
 7413 STKSC (2)

DEFAULT 249

5 YARIC (36)
 67 IPECFIL(1)
 73 NBI (1)
 73 NBI (1)
 73 NBI (1)
 155 NRCA (12)
 169 WHEN (1)
 172 IORERR(1)
 175 DELTIC(1)
 241 DATUMIC(4)
 247 MODESIM(1)
 1 IFTCNT(1)
 4 IOPCNT(1)
 7 IOPCNT(1)
 10 IFIXCNT(1)
 13 IDATUM (1)
 16 IPROPOS(1)
 19 IHELCP(1)
 1 IHLCTL(1)
 4 IPATCOR(1)
 7 ICNTOPE(1)
 10 ICYDOS (1)

SYMFLG 22

41 OWNSTC (14)
 63 JKRUN (1)
 71 INB (1)
 74 NBS17 (1)
 167 NBCM (1)
 170 IOECERR(1)
 173 IFR2C (1)
 175 DELTIC(1)
 245 ISCALIC(1)
 248 ICDTMS(1)
 2 IREPCNT(1)
 5 ICASCT(1)
 8 IRPCNT(1)
 11 ICNTP (1)
 14 ISNFSOS(1)
 17 IEXPCNT(1)
 20 IPNGEDG(1)
 2 IHELCCP(1)
 5 IHKVERP(1)
 8 NRPCCP(1)
 11 MSKALST(1)

TACFLGS 12

1 IHLCTL(1)
 4 IPATCOR(1)
 7 ICNTOPE(1)
 10 ICYDOS (1)

HORIZN 1
 CONST 16
 INDISC 12
 BUFLAGS 26
 ERRFLAG 4

13 IRFUL2 (17)
 3 SELTST(1)

STATISTICS

PROGRAM LENGTH 3068 198
 BUFFER LENGTH 20228 1042
 COMMON LENGTH 5278 343
 BLANK COMMON 163678 7415


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X , IPATOP, IHKVERF, HKTIME, IONTOFF, NPFHOPR, IDL , P, ICYODS, MSKALRY
C-----ACQUISIC MODEL TABLES AND PARAMETERS
COMMON//BUOYR(10,32), BUOYNAV(10,32), ICH(4), NPNG(4), XRLVDR
X , YRLVDR, ISONDAT(32), CFLTS, NENGNT(4), P1(32), IR2(32), LL
X , ANS, C, ITHR(4), NOICH(4), INTGIM(4), ISFLRY
X , MASTRF(32,2), IAAGPMD(4), ISCNCLN, MAXPLOY, IRECH(4)
X , TACSTS, CASSIM, CASSPER, TAUIC(4), IAUICCH
X , IPASOUT(4), JTPCE(32,4), IHFEC(2), ICHNDAT(4), IACNDATX(4)
X , IACNDATY(4), IFSVGLR(4), IBOYCN, IBOEX(4)
C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPRIME, AZSCNM, GLUTTER, DELXI, DELYI, DELYI, PLTPHIO,
* GRAZANG, IRCSYMB, ICFAR, IPEPIS, IROFILE(120), IRODEC(11), IROKTOX,
* IRARMOF, IROSIZE, IRETURNT(30), IORSC, ISEASIE, ITGIN,
* JROF, NPO, PO, PHIR, PCNOISE, PCORNM, SF(5), SIGMA, SIGMAO,
* XINLSEA(9), YINLSEA(9), XSN, YEP, XROCNTR, YROCNTR, DCL13, DCL23,
* DCL33, SNPHIP, CSPIR, CSXLDZI, GMLMDAC(21), RADTCROS(9)
* , KDRCCYC, TR12, M3(21), XFA(21), ISIZE, IFAIL(9), FADNGLM
C-----ESN TABLES
COMMON IEMIT(100,3), IYKRFIL(100), ILI3, INTYESM(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON//IOCTAVE(4), AKFR, NUMBIN, COSR(16), SINB(16), SIG(16), NOIS(16),
X SIGNAL(16,8,4), COSD(16,8,4), SIND(16,8,4), ANARR(16,8), FI(8,4),
X ADU, SANGERR, CVRANGE, KPSVTHQ,
X IVERN(2,8,4), FRLOC(8,4), ALGAKFR, ALGAKFRV, ALGTWO, IFRANC, AKFRV
COMMON // ION, GAMMAS, REPERT, KVALFIP, IDAM(2)
COMMON /HORIZN/ HORLIN
COMMON /CONST/ AMCCNS(16)
COMMON // NIUBUF(10), NIUBUF(17), NIUBUF(40),
* MSPIBUF(40), MSPORUF(17), MSPTRUF(40)
* , MAQDISP(3), IDSPACU(4), MUXIBUF(50), MUXORUF(17)
* , MUXABUF(256), MUXTUBUF(40), KATOBUF(1024), KSORUF(1024)
* , NIURIT, MSPRIT, MUXBIT(2)
* , TACFANG, TACBEAR, IIACTVAL, STKATO(2), STKSO(2)
COMMON /NIUDCOM/ PRINTON
COMMON//BUFLAGS/IBFUL(13), IBFUL2(13)
DIMENSION SPLIT(17)
K = KIN
C-----
C PRINT INPUT BUFFER
C-----
C DOWHILE SOMETHING IN INPUT BUFFER
100 CONTINUE
IF (NIUBUF(K) .EC. 0) GO TO 200
EXPAND INPUT WORD
CALL EXPAND( 16, NIUBUF(K), SPLIT)
PRINT INPUT WORD BIT-BY-BIT
PRINT 110, K, (SPLIT(J), J=1,16)
FORMAT('0'INPUT BUFFER WORD*,13,* = *,16(1X,11))
CALL ADVANCE(K, KLWA)
GO TO 100
200 CONTINUE
ENDDO
C IF EMPTY INPUT BUFFER AND PRINT MESSAGES SELECTED
IF ( K .NE. KIN .OR. .NOT. PRINTON ) GO TO 220
THEN
110
105
110
```

```
115 C PRINT INFORMATIVE MESSAGE
C PRINT 210
C 210 FCRPAT(*OFEMPTY INPUI BUFFER*)
C ELSE
C OMIT MESSAGE
C 220 CONTINUE
C ENJIF
C-----
120 C EXECUTE THE NIU1 MODULE
C-----
C ISFUL1(5)=ISFUL2(5)=IDAW(1)=IDAW(2)=0
C CALL NIU1
C-----
C PRINT OUTPUT BUFFER
C-----
C K = 1
C PRIT = AND( 1, SHIFT( IDAW(1), 60-4))
C PPRIT = AND( 1, SHIFT( IDAW(2), 60-4))
C IF OUTPUT BUFFER EMPTY
C IF ( CPRINT .NE. PPRIT ) GO TO 320
C THEN
C IF PRINT MESSAGES SELECTED
C IF ( .NOT. PRINTON ) GO TO 310
C THEN
C PRINT INFORMATIVE MESSAGE
C PRINT 330
C 300 FORMAT(*EMPTY OUTPUT BUFFER*)
C ELSE
C OMIT MESSAGE
C 310 CONTINUE
C ENJIF
C GO TO 400
C ELSE
C 320 CONTINUE
C PRINT HEADER WORD
C PRINT 330, NIUCBUF(1)
C 330 FORMAT(*OUTPUT BUFFER*/OHEADER WORD =*,021)
C KEND = AND( 37778, SHIFT(NIUCBUF(1),60-13))
C DO WHILE SOMETHING IN THE OUTPUT BUFFER
C DO 370 K=1,KEND
C EXPAND OUTPUT WORD
C CALL EXPAND( 17, NIUT9UF(K), SPLIT)
C PRINT OUTPUT WPC 811-8V-BIT
C K1 = K + 1
C PRINT 360, K1, (SPLIT(J),J=1,17)
C 360 FORMAT(*OUTPUT WORD*,I3,* = *,1X,I1,2X,16(1X,I1))
C 370 CONTINUE
C ENDDO
C-----
C TOGGLE PP DATA AVAILABLE BIT
C-----
C IDAW(2) = XOR( IDAW(2), SHIFT(1,5))
C 400 CONTINUE
C ENJIF
C-----
165 NIUC
219 NIUC
220 NIUC
221 NIUC
222 NIUC
223 NIUC
224 NIUC
225 NIUC
226 NIUC
227 NIUC
228 NIUC
229 NIUC
230 NIUC
231 NIUC
232 NIUC
233 NIUC
234 NIUC
235 NIUC
236 NIUC
237 NIUC
238 NIUC
239 NIUC
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256 NIUC
257 NIUC
258 NIUC
259 NIUC
260 NIUC
261 NIUC
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263 NIUC
264 NIUC
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266 NIUC
267 NIUC
268 NIUC
269 NIUC
270 NIUC
271 NIUC
272 NIUC
273 NIUC
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SURROUTINE XNUL

CUC 5600 FIN V3.0-P380 CPT=1 78/06/12. 15.46.13.

PAGE

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C END OF ROUTINE
C-----
RETURN
END

NTUC 274
NTUF 275
NTUC 276
NTUF 277

SUBROUTINE XNIU

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES	
2 XNIU	24	168	
VARIABLES	SN	TYPE	RELOCATION
4223 ACPRIME	REAL	REAL	REFS
5605 AKR	REAL	REAL	REFS
11317 AKRV	REAL	REAL	REFS
11313 ALGAKFR	REAL	REAL	REFS
11314 ALGAKFV	REAL	REAL	REFS
11315 ALGTWO	REAL	REAL	REFS
0 AMCONS	REAL	CONST	REFS
10707 ANQR	REAL	ARRAY	REFS
4007 ANS	REAL	ARRAY	REFS
11147 AOU	REAL	REAL	REFS
1754 ATOREF	REAL	REAL	REFS
4224 AZSCNM	REAL	REAL	REFS
11322 BERTIP	REAL	REAL	REFS
261 BUOYIC	REAL	DEFAULT	REFS
3127 BUYNV	REAL	ARRAY	REFS
2427 BUYPW	REAL	ARRAY	REFS
4010 C	REAL	REAL	REFS
4142 CASPER	REAL	REAL	REFS
4141 CASSIM	REAL	REAL	REFS
4225 CLUTTER	REAL	REAL	REFS
160 COMNAV	REAL	REAL	REFS
2077 CONYAC	REAL	REAL	REFS
243 CONVOY	REAL	REAL	REFS
5507 COSB	REAL	REAL	REFS
6707 COSO	REAL	REAL	REFS
165 CPBIT	INTEGER	REAL	REFS
4600 CSPHIR	REAL	REAL	REFS
2033 CSPOCP	REAL	REAL	REFS
4601 CSXLOZI	REAL	REAL	REFS
2213 CURSOR	REAL	REAL	REFS
11151 CVRANGE	REAL	REAL	REFS
1705 CX	REAL	REAL	REFS
1706 CY	REAL	REAL	REFS
1720 DATUM	REAL	REAL	REFS
351 DATUMIC	REAL	DEFAULT	REFS
4574 DCL13	REAL	REAL	REFS
4575 DCL23	REAL	REAL	REFS
4576 DCL33	REAL	REAL	REFS
3701 DELTS	REAL	REAL	REFS
4226 DELXI	REAL	REAL	REFS
257 DELXTIC	REAL	DEFAULT	REFS
4227 DELYI	REAL	REAL	REFS
260 DELYTIC	REAL	DEFAULT	REFS
4230 DELZI	REAL	REAL	REFS
1775 DIFAR	REAL	REAL	REFS
4231 DIPHIR	REAL	REAL	REFS
2301 EXPCIR	REAL	REAL	REFS
4753 FARNGLM	REAL	REAL	REFS

130 DEFINED 127

VARIABLES	SN	TYPE	PELOCATION	REFS
1107 FI	REAL	ARRAY	/	76
2244 FIDES	REAL	ARRAY	/	47
11253 FLOG	REAL	ARRAY	/	76
355 FTYPE	REAL	ARRAY	/	29
340 FYPNAV	REAL	ARRAY	/	29
11321 GAMMAS	REAL	ARRAY	/	80
4602 GNLMDAC	REAL	ARRAY	/	66
4232 GRAZANG	REAL	ARRAY	/	66
0 HELO	REAL	ARRAY	/	29
0 HELOIC	REAL	ARRAY	/	40
256 HELOST	REAL	ARRAY	DEFAULT	29
6 HXTIME	REAL	ARRAY	/	55
0 HORLIM	REAL	ARRAY	TACFLGS	81
4126 IAAGPMO	INTEGER	ARRAY	HORIZN	53
4202 IACDAX	INTEGER	ARRAY	/	53
4206 IACDAX	INTEGER	ARRAY	/	59
4140 IACSTS	INTEGER	ARRAY	/	59
3 IATLCNT	INTEGER	ARRAY	/	51
363 IAUTMAD	INTEGER	ARRAY	SYNFLG	29
4143 IAUUTO	INTEGER	ARRAY	/	58
4147 IAUUTOCH	INTEGER	ARRAY	/	58
0 IBOFUL1	INTEGER	ARRAY	/	90
15 IBOFUL2	INTEGER	ARRAY	/	90
4216 IBOYCNT	INTEGER	ARRAY	BUFLGS	58
5 IBOYCNT	INTEGER	ARRAY	/	51
370 IBOYCNT	INTEGER	ARRAY	SYNFLG	40
4234 ICFAR	INTEGER	ARRAY	DEFAULT	66
366 ICFIRST	INTEGER	ARRAY	/	40
3627 ICH	INTEGER	ARRAY	DEFAULT	58
4176 ICHNDAT	INTEGER	ARRAY	/	58
7 ICONCNT	INTEGER	ARRAY	/	51
22 ICSROFG	INTEGER	ARRAY	SYNFLG	51
11 ICSROFG	INTEGER	ARRAY	SYNFLG	51
12 ICSROFG	INTEGER	ARRAY	SYNFLG	55
3 ICSROFG	INTEGER	ARRAY	TACFLGS	55
15 ICSROFG	INTEGER	ARRAY	TACFLGS	51
11324 IDAM	INTEGER	ARRAY	SYNFLG	80
254 IDC2EPR	INTEGER	ARRAY	/	40
252 IDEGERR	INTEGER	ARRAY	DEFAULT	40
4 IDRCNT	INTEGER	ARRAY	DEFAULT	51
4217 IDFX	INTEGER	ARRAY	SYNFLG	59
11 IDSFTP	INTEGER	ARRAY	/	55
11575 IDSPACU	INTEGER	ARRAY	/	83
4754 IEMIT	INTEGER	ARRAY	/	74
253 IEPIC	INTEGER	ARRAY	/	40
255 IER2C	INTEGER	ARRAY	DEFAULT	51
21 IEXPCNT	INTEGER	ARRAY	DEFAULT	66
4742 IFAIL	INTEGER	ARRAY	SYNFLG	51
12 IFIXCNT	INTEGER	ARRAY	/	76
11316 IFPAND	INTEGER	ARRAY	/	51
1 IFPCNT	INTEGER	ARRAY	SYNFLG	55
2 IMELCOR	INTEGER	ARRAY	SYNFLG	51
4174 IMFPG	INTEGER	ARRAY	/	59

DEFINED 121
DEFINED 121

127 128 162 162 2*121 162

VARIABLES	SN	TYPE	RELOCATION	REFS
5	IMKVERP	INTEGER	TACFLGS	55
1	ILCNL	INTEGER	TACFLGS	55
5574	ILIS	INTEGER	/ /	74
6	IMADCN	INTEGER	SYMFLG	51
107	INR	INTEGER	DEFAULT	40
4021	INTGIM	INTEGER	/ /	59
5575	INYESM	INTEGER	/ /	74
5601	IOCTAVE	INTEGER	/ /	76
11320	ION	INTEGER	/ /	80
13	IONTOP	INTEGER	SYMFLG	51
7	IONTOPF	INTEGER	TACFLGS	55
110	IOUTB	INTEGER	DEFAULT	40
4150	IPASOUT	INTEGER	/ /	59
4	IPATCOR	INTEGER	TACFLGS	55
1602	IPDEEC	INTEGER	/ /	29
4235	IPERSIS	INTEGER	/ /	65
14	IPONTER	INTEGER	SYMFLG	51
20	IPROPOS	INTEGER	SYMFLG	51
4212	IPSVCLR	INTEGER	/ /	59
1577	ITICOPR	INTEGER	/ /	29
10	ITORCNT	INTEGER	SYMFLG	51
4236	ITDILE	INTEGER	/ /	66
4426	ITRDEC	INTEGER	/ /	66
4465	ITRDIRX	INTEGER	/ /	66
4466	ITRDMOE	INTEGER	/ /	66
4526	ITRISC	INTEGER	/ /	66
4467	ITRISZ	INTEGER	/ /	66
4233	ITRSYMB	INTEGER	/ /	65
103	ITRFFIL	INTEGER	DEFAULT	40
2	ITREFCNT	INTEGER	SYMFLG	51
4470	ITETUPN	INTEGER	/ /	66
4134	ITFCH	INTEGER	/ /	58
24	ITNGFOG	INTEGER	SYMFLG	51
1710	ITPTOTR	INTEGER	/ /	29
3746	IR2	INTEGER	/ /	58
365	ISCALIC	INTEGER	DEFAULT	40
4527	ISEASTE	INTEGER	/ /	66
4025	ISLBY	INTEGER	/ /	58
4741	ISIZE	INTEGER	/ /	66
0	ISMKCNT	INTEGER	SYMFLG	51
16	ISNSFDS	INTEGER	SYMFLG	51
3641	ISONDAT	INTEGER	/ /	58
4132	ISONCLN	INTEGER	/ /	58
16362	ITACVAL	INTEGER	/ /	83
1571	ITGCNT	INTEGER	/ /	29
256	ITGDET	INTEGER	DEFAULT	40
4530	ITGTN	INTEGER	/ /	66
4011	ITHR	INTEGER	/ /	58
17	ITORDS	INTEGER	SYMFLG	51
5430	ITPKFIL	INTEGER	/ /	74
370	ITUNE	INTEGER	/ /	29
11153	IVERN	INTEGER	/ /	76
25	IMFIP	INTEGER	SYMFLG	51
170	J	INTEGER		102

155 DEFINED 102 155

VARIABLES SN TYPE RELOCATION

VARIABLES	SN	TYPE	RELOCATION
371 JABUFF		INTEGER	ARRAY
104 JKRUN		INTEGER	//
1572 JOWN		INTEGER	DEFAULT
1600 JPILOT		INTEGER	//
105 JPRINT		INTEGER	//
4531 JPRDR		INTEGER	DEFAULT
1601 JRESET		INTEGER	//
1573 JSUB		INTEGER	//
4154 JTRCE		INTEGER	//
167 K		INTEGER	ARRAY
12354 KATOBUF		INTEGER	ARRAY
171 KEND		INTEGER	//
0 KIN		INTEGER	F.P.
0 KLWA		INTEGER	F.P.
11152 KPSVTHR		INTEGER	//
4640 KPRCYC		INTEGER	//
14354 KSOBUF		INTEGER	//
11323 KVALFTP		INTEGER	ARRAY
172 K1		INTEGER	//
4006 LL		INTEGER	//
1574 MADAUTO		INTEGER	ARRAY
11572 MADDISP		INTEGER	ARRAY
4026 MASTRF		INTEGER	ARRAY
4173 MAXBUOY		INTEGER	//
366 MINUTES		INTEGER	//
1713 MISSION		INTEGER	//
367 MODESIM		INTEGER	DEFAULT
13 MSKALRY		INTEGER	TACFLGS
16355 MSPBIT		INTEGER	//
11431 MSPIBUF		INTEGER	ARRAY
11501 MSPQBUF		INTEGER	ARRAY
11522 MSPIBUF		INTEGER	ARRAY
11704 MUXABUF		INTEGER	ARRAY
16356 MUXBIT		INTEGER	ARRAY
11601 MUXIBUF		INTEGER	ARRAY
11663 MUXOBUF		INTEGER	ARRAY
12304 MUXTRUF		INTEGER	ARRAY
4642 M3		INTEGER	ARRAY
314 NAV		REAL	ARRAY
111 NDC		INTEGER	DEFAULT
233 NPQA		INTEGER	ARRAY
247 NQCM		INTEGER	DEFAULT
112 NQSIZ		INTEGER	DEFAULT
250 NBUFFHD		INTEGER	DEFAULT
106 NBI		INTEGER	DEFAULT
365 NHOURS		INTEGER	//
16354 NIURIT		INTEGER	//
11326 NIUIBUF		INTEGER	ARRAY
11340 NIUCBUF		INTEGER	ARRAY
11351 NIUTBUF		INTEGER	ARRAY
5667 NOIS		INTEGER	AFRAY
4015 NOTCH		INTEGER	ARRAY
4532 NPD		INTEGER	//

REFS 29
REFS 40
REFS 29
REFS 29
REFS 40
REFS 66
REFS 29
REFS 29
REFS 58
REFS 98
REFS 92
REFS 83
REFS 150
REFS 148
REFS 92
REFS 104
REFS 76
REFS 66
REFS 83
REFS 80
REFS 155
REFS 58
REFS 29
REFS 83
REFS 58
REFS 58
REFS 29
REFS 29
REFS 40
REFS 55
REFS 83
REFS 83
REFS 83
REFS 83
REFS 83
REFS 83
REFS 83
REFS 83
REFS 66
REFS 29
REFS 40
REFS 40
REFS 40
REFS 40
REFS 40
REFS 29
REFS 83
REFS 83
REFS 83
REFS 76
REFS 58
REFS 66

100
126
102
150
104
109
24
24
154
39
98
100
146
152
148

VARIABLES	SN	TYPE	DECLARATION	REFS
3633 NENG	10	INTEGER	ARRAY //	58
3702 NENGCOOP	10	INTEGER	ARRAY //	55
3702 NENGCON	10	INTEGER	ARRAY //	59
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	76
3702 NENGCON	10	INTEGER	ARRAY //	40
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	25
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	27
3702 NENGCON	10	INTEGER	ARRAY //	130
3702 NENGCON	10	INTEGER	ARRAY //	89
3702 NENGCON	10	INTEGER	ARRAY //	109
3702 NENGCON	10	INTEGER	ARRAY //	128
3702 NENGCON	10	INTEGER	ARRAY //	133
3702 NENGCON	10	INTEGER	ARRAY //	56
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	58
3702 NENGCON	10	INTEGER	ARRAY //	76
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	76
3702 NENGCON	10	INTEGER	ARRAY //	76
3702 NENGCON	10	INTEGER	ARRAY //	76
3702 NENGCON	10	INTEGER	ARRAY //	76
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	40
3702 NENGCON	10	INTEGER	ARRAY //	26
3702 NENGCON	10	INTEGER	ARRAY //	83
3702 NENGCON	10	INTEGER	ARRAY //	83
3702 NENGCON	10	INTEGER	ARRAY //	83
3702 NENGCON	10	INTEGER	ARRAY //	83
3702 NENGCON	10	INTEGER	ARRAY //	40
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	56
3702 NENGCON	10	INTEGER	ARRAY //	66
3702 NENGCON	10	INTEGER	ARRAY //	47
3702 NENGCON	10	INTEGER	ARRAY //	40
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	29
3702 NENGCON	10	INTEGER	ARRAY //	58
3702 NENGCON	10	INTEGER	ARRAY //	58

VARIABLES SN TYPE RELOCATION

4667 XFA	REAL	ARRAY	66
4668 XFA	REAL	ARRAY	66
4669 XFA	REAL	ARRAY	66
2063 XMACNT	REAL	ARRAY	47
2306 XONTOP	REAL	ARRAY	47
4572 XQDCNTR	REAL	ARRAY	66
4570 XSN	REAL	ARRAY	66
4571 XSPD	REAL	ARRAY	66
3640 YRUOYDR	REAL	ARRAY	58
4714 YFA	REAL	ARRAY	66
4557 YINLSEA	REAL	ARRAY	66
4573 YRDCNTR	REAL	ARRAY	66

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6 100	97	105
133 110	103	102
27 200	106	98
140 210	113	112
36 220	116	109
144 300	137	136
55 310	140	133
56 320	144	130
150 330	147	146
155 360	156	155
0 370	157	150
112 400	163	142

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES EXT REFS

67 370	150	157	178
--------	-----	-----	-----

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

7415	0 HFLC (24)
	124 SHIPNAV(30)
	171 OFFTP (3)
	224 FTPNAV (12)
	241 WIND (2)
	246 MINUTES(1)
	249 JARLFF (640)
	891 JSUG (1)
	896 JPLOTT (1)
	965 CX (1)
	968 IRPTOTP(1)
	24 YARGNAV(18)
	154 SHIPCOM(9)
	174 HELCST (30)
	236 TIME (1)
	243 LAUTMAD(2)
	247 NSPCS (1)
	889 ITGNT (1)
	892 MADAUTO(3)
	897 JPESET (1)
	966 CY (1)
	969 PLOTXZR(1)
	112 CCNAV (12)
	153 CCNAV (18)
	204 NAV (20)
	217 FTPE (4)
	245 NHOLPS (1)
	248 ITUNE (1)
	890 JCWN (1)
	895 IPTCORR(1)
	898 IPTREC (67)
	967 TWTICK(1)
	970 PLOTV7R(1)

CNC 6600 FPM 07.0-0.480 OPT-1 7/206/12. 15.46.11.

MEMBERS - PIAS NAME(LENGTH)

COMMON BLOCKS LENGTH

971 MISSION(1)	972 REFILL (32)	1004 ATOSFF (12)
1016 DATUM (5)	1021 DIFAP (32)	1051 CSRCOR (24)
1075 XMACONT(12)	1047 CONTAC (60)	1147 RNCITP (16)
1153 CURSOR (24)	1147 SENSACR(1)	1148 FIXPES (14)
1206 TORPED (6)	1212 PREPOS(3)	1215 PCINTER(12)
1217 EXPCTR (5)	1222 XCNTOP (3)	1225 TRACKS (54)
1279 WEATYP (5)	1284 SHPTSKU(1)	1285 TRCKSPH(14)
1303 RUOYRW (320)	1423 BUCYNAB(320)	1943 ICH (4)
1347 NPNG (4)	1951 XBUOYR(1)	1952 YFUCYD(1)
1353 ISONDAI(32)	1945 DELIS (1)	1946 NRGNCNT(4)
1390 RI (32)	2022 IR2 (32)	2054 LL (4)
2055 ANS (1)	2036 C (1)	2057 ITHP (4)
2051 NOTCH (4)	2055 INTCIM(4)	2069 ISELBY (1)
2070 MASTIFF (64)	2134 IAAGMD(4)	2174 ISCNOIA(1)
2139 MAXRUOY(1)	2140 IRFCH (4)	2144 IACSYS (1)
2145 CASSTM(1)	2146 CASPER(1)	2147 IAUIC (4)
2151 IAUICCH(1)	2152 IPASOUT(4)	2156 JTECF (16)
2172 IHFPG (2)	2174 ICHNDAT(4)	2174 IACCAIX(4)
2182 IACDATY(4)	2186 IPSVALP(4)	2190 YBOYCAT(1)
2191 IOFX (4)	2195 ACPOIVE(1)	2196 A7SCNLA(1)
2197 CLUTTEP(1)	2198 DELXT (1)	2198 DELYT (1)
2200 DELZI (1)	2201 OLTPHIR(1)	2202 GAZANG(1)
2203 IRDSYMB(1)	2204 IOFAP (1)	2205 ITERSIS(1)
2206 IRDFILE(120)	2326 IRDRDF(31)	2357 YRDFICX(1)
2358 IRBRANCE(1)	2359 IRFSIZE(1)	2360 YFETUPN(30)
2390 IROSSC (1)	2391 ISEASTE(1)	2392 ITGTN (1)
2393 JROP (1)	2394 NPD (1)	2395 PD (1)
2396 PHIR (1)	2397 PCNOISE(1)	2398 FORNGN(1)
2399 SF (5)	2404 SIGMA (1)	2405 SIGMAO (1)
2406 XINLSEA(9)	2415 VINLSEA(9)	2424 XSN (1)
2425 YRPO (1)	2426 XPDONT(1)	2427 YEDONT(1)
2428 DCL13 (1)	2429 DCL23 (1)	2470 DCL33 (1)
2431 SNPHIR (1)	2432 CSPHIR (1)	2433 CSXLD7(1)
2434 GHLWDAC(21)	2455 PADCRCS(9)	2464 KEDPCYC(1)
2455 YR12 (1)	2466 M3 (21)	2487 YFA (121)
2508 YFA (121)	2529 ISI7E (1)	2530 YFAL (9)
2539 FARAGLM(1)	2543 IEMIV (300)	2640 YEFKFL(100)
2640 ILI3 (1)	2641 INTVSM(4)	2646 YOCOTAVE(4)
2649 AKER (1)	2650 NUMBIN (1)	2651 CCSR (16)
2667 SING (16)	2683 SIG (16)	2689 NOTS (16)
3015 SIGNAL (512)	3527 COSD (512)	4039 SINC (512)
4521 ANAFR (124)	4679 FI (32)	4711 ACU (1)
4712 SANGEP(1)	4713 CVPANGE(1)	4714 KFSVTP(1)
4715 IVEEN (64)	4779 FPLOG (32)	4811 ALGAKFR(1)
4812 ALGAKFV (1)	4813 ALGTWC (1)	4814 IFRANC (1)
4815 AKERV (1)	4815 ION (1)	4817 GAMMAS (1)
4818 REPTF (1)	4819 KVALFIP(1)	4820 ITAW (12)
4822 NIUBUF (10)	4832 NIUBUF (17)	4849 NIUTEUF(40)
4849 MSPTRUF(40)	4829 MSPORUF(17)	4846 MSPTRUF(40)
4986 MADDISP(3)	4989 IODSPARU(4)	4993 MUXTRUF(50)
5043 MUXORUF(17)	5040 MUXARUF(256)	5316 MUXTALF(40)
5356 KATORUF (1024)	6380 KSORUF (1024)	7404 NIUBIT (1)
7405 MSPBIT (1)	7406 MUXBIT (2)	7408 TACPARNG(1)
7409 TACSEAR(1)	7410 ITACVAL(1)	7411 STRATC (12)

COMMON BLOCKS LENGTH MEMBERS - RIAS NAME(LENGTH)

DEFAULT	LENGTH
249	7413 STKCO (2)

0 HELCTC (5)
55 SONGIC (12)
69 JPRINT (1)
72 IOUTB (1)
75 SCT (33)
158 NRUFWO (1)
171 IERIC (1)
174 TIGRET (1)
177 BUOVIC (64)
246 ICFIRST (1)
0 ISMKCNT (1)
3 IATLCNT (1)
6 IMAGCNT (1)
9 ICUCNT (1)
12 IPONTER (1)
15 IYORDS (1)
18 ICSEDFG (1)
21 IWFP (1)
0 TPXTIME (1)
3 IDAYLNK (1)
6 HKTIME (1)
9 INSETF (1)
0 HORLIM (1)
0 AMCONS (16)
0 PRINTCN (1)
0 IBFUL1 (13)

SYMF LG	22
5 IARGIC (36)	
67 IREFCTL (1)	
70 NP1 (1)	
73 NBC (1)	
155 NRCA (12)	
169 WHEN (1)	
172 IOC2POD (1)	
175 DELXITC (1)	
241 DATUMIC (4)	
247 MCODESYM (1)	
1 IFIPCNT (1)	
4 IOFPCNT (1)	
7 ICONCNT (1)	
10 IFIXCNT (1)	
13 IQATUM (1)	
16 IPDPOCS (1)	
19 IHFLCUR (1)	
1 IMLCNTL (1)	
4 IPATCOB (1)	
7 IONTORF (1)	
10 IYVONS (1)	
13 IPFUL2 (13)	

TACFLGS	12
41 OMNSIC (14)	
68 JKRUN (1)	
71 TNR (1)	
74 NFSI7 (1)	
167 NRCM (1)	
170 IOFCERO (1)	
173 IEO2C (1)	
176 DELVITC (1)	
245 ISCALIC (1)	
248 IOCDINDS (1)	
2 IPEFCNT (1)	
5 IASCNT (1)	
8 IROPCNT (1)	
11 IONTOP (1)	
14 ISNSFCS (1)	
17 IEXP CNT (1)	
20 IENGFCG (1)	
2 THELOCP (1)	
5 IHKVERF (1)	
8 NFFHCCR (1)	
11 MSKALRT (1)	

HORIZN	1
CONST	16
NIUDCOM	1
BUFLAGS	26

STATISTICS

PROGRAM LENGTH	2148
COMMON LENGTH	5078
BLANK COMMON	163678
140	
327	
7415	


```

X , IACSTS, CASSTM, CASSEPR, IAUO(4), IAUOCH
X , IPASCU(4), JPROF(2,2,4), IREFG(2), ICHNDAT(4), IACDATTX(4)
X , IACDATTX(4), IPSVCLR(4), IBOVONI, IREFX(4)
C-----RADAR MODEL TABLES AND PARAMETERS
COMMON ACPRIME, AZSCALM, CLUTTER, DELXI, DELYI, DELZI, OLYPHIR,
* GRAZAND, IRDSYMB, ICFAR, IPRESS, IROFILE(120), IROPDFC(31), IROPRDX,
$ IRDMODE, IROSIZE, IREFUCN(30), IROSC, ISEASIF, IYGIN,
* JGR, NPD, PD, PHIF, RCNOISE, RCNGNM, SF(5), SIGMA, SIGMAO,
* XINLSEA(9), YINLSEA(9), XSN, YEPG, XROCNTR, YROCNTR, DOL13, DOL23,
* DCL33, SNPHIR, CSXPHIR, CSXLOZI, GMLMDAC(21), RADCRDS(9)
* , KRORCXC, TRI2, M3(21), XFA(21), YFA(21), ISIZE, IFAIL(9), FAPNGLM
C-----FSM TABLES
COMMON IEMT(100,3), ITCKFIL(100), ILIB, INTYESM(4)
C-----PASSIV MODEL DATA STORAGE AREA
COMMON //IOCTAVE(4), AKFR, NUMBIN, COSB(16), SINB(16), SIG(16), NOIS(16),
X SIGNAL(16,8,4), COSD(16,8,4), SIND(16,8,4), ANAPS(16,8), FI(8,4),
X AOU, SANGERR, CVPANGE, KFSVTR,
X IVERN(2,8,4), FSLCG(8,4), ALGAKFR, ALGAKFV, ALGTWC, IFRANC, AKEDV
COMMON //ION, GAMMAS, GERFIF, KVALFTP, IOAW(2)
COMMON /HORIZN/ HORLIM
COMMON /CONST/ AMCCNS(16)
COMMON // NIUBUF(10), NIUCRUF(17), NIUTRUF(40),
* MSPTRUF(40), MSPORUF(17), MSPTRUF(40)
* , MAGDISP(3), IDSPACU(4), MUXIBUF(50), MUXO8UF(17)
* , MUXABUF(256), MUXTRUF(40), KATORUF(1024), KSO8UF(1024)
* , NIUBIT, MSPBIT, MUXBIT(2)
* , YACRANG, TACSEAR, ITACVAL, SKATO(2), SKSO(2)
COMMON /NIUDIOA/ NIUDUF(5)
COMMON /INDISC/ IATOCG(12)
COMMON /RUFPLAG/ ISFUL(13), IREFUL2(13)
COMMON /ERRFLAG/ IREFERR(3), SELFIST
DATA SELFIST, OLOBIT, CLORT, INPINDX, INPSIZE, NIUTST
* / J , 0 , 0 , 0 , 1 , 10 , 2700008 /
DATA PROINIT
* / .F. /
DATA K1H7 / 5 /
NIU DATA WORDS
DATA IEQUIP1, IEQUIP2 / 200008, 000008 /
INITIALIZE OUTPUT BUFFER
NIUTRUF(1) = 0
NIUTRUF = 1
RT = NIUTST
BIT = NIUBIT
C-----
C MAIN LOOP FOR INPUT PROCESSING
C-----
C IF AN/AYK-14 COMMAND
C IF(NIUBIT(INPINDX))40,50,40
C THEN
C RESET STATUS SENT FLAG
C CONTINUE
C 40 IFUL1(5) = 0
C ELSE
C 50 NOT RESET STATUS SENT FLAG
C CONTINUE

```

```

C      ENDIF
C      DO WHILE SOMETHING IN INPUT BUFFER
C      100 CONTINUE
C      IF(NIU1BUF(INPINDEX))105,600,105
C      -----
C      CRACK COMMAND WORD INTO BASIC FIELDS
C      -----
C      105 CONTINUE
C      COMMAND = AND( 378, SHIFT( NIU1BUF(INPINDEX), 60-5))
C      DATAW = AND( 378, NIU1BUF(INPINDEX))
C      IF=AND(18,SHIFT(NIU1BUF(INPINDEX),60-10))
C      -NIU1BUF(INPINDEX) = 0
C      IF *IN* LESS THAN *LWA*
C      IF(INPINDEX-INPSIZE)107,110,107
C      THEN
C      INCREMENT *IN*
C      CONTINUE
C      107 INPINDEX = INPINDEX + 1
C      GO TO 120
C      ELSE
C      110 CONTINUE
C      ENOIF
C      120 CONTINUE
C      CASE OF AOP COMMAND WORD (COMMAND)
C      IF (COMMAND)300,202,300
C      *COMMAND EQ. 0
C      MODE/DISCRETS DATA
C      202 CONTINUE
C      -----
C      PROCESS MODE/DISCRETES
C      -----
C      CASE OF MODE/DISCRETES (DATAW)
C      IF (DATAW-1)210,204,210
C      *DATAW EQ. 1
C      INITIALIZE RT
C      204 CONTINUE
C      -----
C      INITIALIZE RT
C      -----
C      SELFST = 0
C      PROINIT = .FALSE.
C      IRFUL1(5) = 0
C      IRFUL2(5) = 0
C      GO TO 540
C      210 CONTINUE
C      IF (DATAW-3)220,212,220
C      CONTINUE
C      212 *DATAW EQ. 3
C      CONTINUE
C      -----
C      INITIATE SELF-TEST
C      -----
C      SELFST = 150
C      IRFUL1(5) = 0
C      115
C      120
C      125
C      130
C      135
C      140
C      145
C      150
C      155
C      160
C      165
NIU1 52
NIU1 53
NIU1 54
NIU1 55
NIU1 56
NIU1 57
NIU1 58
NIU1 59
NIU1 60
NIU1 61
NIU1 62
NIU1 63
NIU1 64
NIU1 65
NIU1 66
NIU1 67
NIU1 68
NIU1 69
NIU1 70
NIU1 71
NIU1 72
NIU1 73
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NIU1 88
NIU1 89
NIU1 90
NIU1 91
NIU1 92
NIU1 93
NIU1 94
NIU1 95
NIU1 96
NIU1 97
NIU1 98
NIU1 99
NIU1 100
NIU1 101
NIU1 102
NIU1 103
NIU1 104
NIU1 105
NIU1 106
```



```
170      IFUL2(5) = 0
      NIURUF(1)=PI.CC.10000
      GO TO 540
      CONTINUE
      IF(CATAC-4)230,222,230
      CONTINUE
      *CATAC EQ. 4
      -----
      INITIATE PROCESSING
      -----
      PRINT = .TRUE.
      GO TO 540
      CONTINUE
      *CATAC NE. 1,3,4
      THESE MODE/DISCRETES NOT PROCESSED
      GO TO 540
      -----
      END CASE
      CONTINUE
      IF(COMMAND-1)540,302,540
      *COMMAND EQ. 1
      -----
      PROCESS NORMAL DATA TRANSFERS
      -----
      IF ACP IS REQUESTING DATA
      CONTINUE
      IF(TP)306,310,306
      THEN
      -----
      IIU HAS TRANSFERRED PREVIOUS OUTPUT
      -----
      CONTINUE
      RESET DATA SENT FLAG
      IFUL2(5) = 0
      GO TO 535
      ELSE
      CONTINUE
      -----
      ACP IS SENDING DATA
      -----
      TRANSFER TACTICAL RANGE TO DTGA
      -----
      NIURUF(1)= NIURUF(INPINDEX)
      NIURUF(INPINDEX) = 0
      IF *IN* LESS THAN *LWA*
      IF(INPINDEX-INPSIZE)325,330,325
      THEN
      INCREMENT *IN*
      CONTINUE
      INPINDEX = INPINDEX + 1
      GO TO 340
      ELSE
      CONTINUE
      SET *IN* TO *FWA*
      INPINDEX = 1
      CONTINUE
      -----
      NIU1 107
      NIU1 108
      NIU1 109
      NIU1 110
      NIU1 111
      NIU1 112
      NIU1 113
      NIU1 114
      NIU1 115
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      NIU1 158
      NIU1 159
      NIU1 160
      NIU1 161
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225      C-----
      C      ENDIF
      C-----
      C      TRANSFER TACTICAL BEARING TO DIOA
      C-----
      C      NIURUF(2) = NIURUF(INPINX)
      C-----
      C      DECODE BEARING TO RADIAN FOR HELOINP
      C-----
      C      KVALFIP = AND(1, NIURUF(INPINX))
      C-----
      C      IVALUF = AND(77777,
      C      SHIFT(NIURUF(INPINX), 60-1))
      C      BERFIP = FLCAI(IVALUF) * 0.010986 *
      C      ANCONS(15)
      C-----
      C      NIURUF(INPINX) = C
      C      IF *IN* LESS THAN *LWA*
      C      IF(INPINX-INPSIZE) 365, 370, 365
      C      THEN
      C      INCREMENT *IN*
      C      CONTINUE
      C      INPINX = INPINX + 1
      C      GO TO 390
      C      ELSE
      C      CONTINUE
      C      SPY *IN* TO *FWA*
      C      INPINX = 1
      C      CONTINUE
      C      ENDIF
      C-----
      C      TRANSFER CRIPT ANGLE TO DIOA
      C-----
      C      NIURUF(3) = NIURUF(INPINX)
      C      NIURUF(INPINX) = 0
      C      IF *IN* LESS THAN *LWA*
      C      IF(INPINX-INPSIZE) 405, 410, 405
      C      THEN
      C      INCREMENT *IN*
      C      CONTINUE
      C      INPINX = INPINX + 1
      C      GO TO 420
      C      ELSE
      C      CONTINUE
      C      SPY *IN* TO *FWA*
      C      INPINX = 1
      C      CONTINUE
      C      ENDIF
      C-----
      C      TRANSFER PILOTS HEADING TO DIOA
      C-----
      C      NIURUF(4) = NIURUF(INPINX)
      C      NIURUF(INPINX) = C
      C      IF *IN* LESS THAN *LWA*
      C      IF(INPINX-INPSIZE) 445, 450, 445
      C      THEN
      C      INCREMENT *IN*
      C      CONTINUE
      C-----
      C      445

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NIU1 162
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 NIU1 215
 NIU1 216

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      C 450
      INPINDX = INPINDX + 1
      GO TO 460
    ELSE
      CONTINUE
      SET *IN* TO *FMA*
      INPINDX = 1
      CONTINUE
    ENDOF
  285 C 460
      TRANSFER ATC HEADING TO DIOA
      NIURUE(5) = NIURUE(INPINDX)
      NIURUE(INPINDX) = 0
      IF *IN* LESS THAN *LWA*
      IF (INPINDX-INPSIZE) 485,490,485
      THEN
        INCREMENT *IN*
        CONTINUE
      INPINDX = INPINDX + 1
      GO TO 500
    ELSE
      CONTINUE
      SET *IN* TO *FMA*
      INPINDX = 1
      CONTINUE
    ENDOF
  300 C 500
      IGNORE CONTROL DATA WOPF
      NIURUE(INPINDX) = 0
      IF *IN* LESS THAN *LWA*
      IF (INPINDX-INPSIZE) 515,520,515
      THEN
        INCREMENT *IN*
        CONTINUE
      INPINDX = INPINDX + 1
      GO TO 530
    ELSE
      CONTINUE
      SET *IN* TO *FMA*
      INPINDX = 1
      CONTINUE
    ENDOF
  315 C 530
      CONTINUE
      ENDOF
      CONTINUE
      ENDOF
      CONTINUE
      ENDOF
      ENOCASE
      GO TO 100
  325 C 600
      CONTINUE
      ENDDO
      OUTPUT PROCESSING
      IF (SELFIST) 610,610,601
      THEN
  330 C

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NIU1 217
NIU1 218
NIU1 219
NIU1 220
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NIU1 271

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335 C-----
C DECREMENT TIME LEFT IN SELF-TEST
C-----
      601 CONTINUE
      SELFST = SELFST - 1
      IF SELF-TEST WAS TIMED OUT
      IF (SELFST) 606, 603, 606
      THEN
      SETUP OUTPUT OF RT AND RIT STATUS WORDS
      603 CONTINUE
      NIUBUF(1)=RT, CR, 18
      NIURUF(2)=RIT
      NIURUF=2
      OLOBIT=0
      ELSE
      606 CONTINUE
      ENDIF
      GO TO 635
      ELSE
      610 CONTINUE
      IF RIT STATUS HAS CHANGED
      613 IVALUE = AND( RIT, COMPL(OLOBIT)) .AND. 70177R
      IF (IVALUE) 613, 617, 613
      THEN
      PLACE RT WITH I/F RIT SET AND NEW FAULTS PER
      INFO OUTPUT BUFFER
      613 CONTINUE
      RT = RT .OR. 12
      NIUBUF(1) = RT
      NIURUF(2) = IVALUE
      NIURUF = 2
      ELSE
      617 CONTINUE
      SET OLD BIT TO NEW RIT
      OLOBIT = BIT
      ENDIF
      IF OUTPUT DATA SHOULD BE SENT
      625 IF (.NOT. PPOINIT) GO TO 632
      THEN
      K1H7 = K1H7 + 1
      IF TIME FOR 1 HZ DATA
      IF (K1H7-5) 635, 625, 625
      THEN
      CONTINUE
      K1H7 = 0
      SET RT DATA AVAILABLE PIT
      RT = CR( RT, 4008)
      SET RT WORD COUNT
      RT = CR( RT, 4 )
      NIURUF(1) = RT
      PLACE EQUIPMENT STATUS WORDS INTO
      385 C

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NIU1 272

NIU1 273

NIU1 274

NIU1 275

NIU1 276

NIU1 277

NIU1 278

NIU1 279

NIU1 280

NIU1 281

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NIU1 283

NIU1 284

NIU1 285

NIU1 286

NIU1 287

NIU1 288

NIU1 289

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NIU1 312

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NIU1 315

NIU1 316

NIU1 317

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NIU1 319

NIU1 320

NIU1 321

NIU1 322

NIU1 323

NIU1 324

NIU1 325

NIU1 326

Line	Code	Statement	Label
322	C	OUTPUT BUFFER	NTU1
323	C	NIUTRUF(NOUTRUF + 1) = IEQUIP1	NTU1
324	C	NOUTRUF = NOUTRUF + 2	NTU1
325	C	IF TACAN SELECTED	NTU1
326	C	IF (SHIFT(IATOTOG(1),60-2) .GE. 0)	NTU1
327	C	GO TO 627	NTU1
328	C	THEN	NTU1
329	C	SET TACAN BITS IN STATUS WORD 2	NTU1
330	C	NIUTRUF(NOUTRUF) = 1100000	NTU1
331	C	GO TO 628	NTU1
332	C	ELSE	NTU1
333	C	SET COMPUTER SELECTED BITS	NTU1
334	C	CONTINUE	NTU1
335	C	NIUTRUF(NOUTRUF) = 440000	NTU1
336	C	CONTINUE	NTU1
337	C	ENDIF	NTU1
338	C	ELSE	NTU1
339	C	NO OUTPUT THIS CYCLE	NTU1
340	C	CONTINUE	NTU1
341	C	ENDIF	NTU1
342	C	CONTINUE	NTU1
343	C	CONTINUE	NTU1
344	C	CONTINUE	NTU1
345	C	CPBIT = AND(1, SHIFT(IDAW(1), 60-4))	NTU1
346	C	PPBIT = AND(1, SHIFT(IDAW(2), 60-4))	NTU1
347	C	IF PREVIOUS OUTPUT READ BY PP	NTU1
348	C	IF CPBIT-PPBIT	NTU1
349	C	THEN	NTU1
350	C	IF AM/AVK-14 HAS NOT REQUESTED PREVIOUS DATA	NTU1
351	C	CONTINUE	NTU1
352	C	IF (IAFUL1(5) + IAFUL2(5)) 665,640,665	NTU1
353	C	THEN	NTU1
354	C	OUTPUT THIS CYCLE	NTU1
355	C	CONTINUE	NTU1
356	C	CHECK FOR RT STATUS CHANGE	NTU1
357	C	IF RT STATUS HAS CHANGED	NTU1
358	C	IF(RT-OLDRT)645,650,645	NTU1
359	C	THEN	NTU1
360	C	PUT RT INTO OUTPUT BUFFER	NTU1
361	C	CONTINUE	NTU1
362	C	NIUTRUF(1) = RT	NTU1
363	C	OLDRT = RT	NTU1
364	C	ELSE	NTU1
365	C	LEAVE OUTPUT ALONE	NTU1
366	C	CONTINUE	NTU1
367	C	ENDIF	NTU1
368	C	SEND DATA IN BUFFER TO IIU	NTU1
369	C	CONTINUE	NTU1
370	C	CONTINUE	NTU1
371	C	CONTINUE	NTU1
372	C	CONTINUE	NTU1
373	C	CONTINUE	NTU1
374	C	CONTINUE	NTU1
375	C	CONTINUE	NTU1
376	C	CONTINUE	NTU1
377	C	CONTINUE	NTU1
378	C	CONTINUE	NTU1
379	C	CONTINUE	NTU1
380	C	CONTINUE	NTU1
381	C	CONTINUE	NTU1

```
-----
C  IF SOMETHING IN OUTPUT BUFFER
C  IF(NIUTRUF(1))652,660,652
C  THEN
C  PACK BUFFER FOR PP
C  CONTINUE
C  CALL BACKPP( 5, NIUTRUF)
C  CONSTRUCT HEADER WORD
C  NBYTES = NIUTRUF + NIUTRUF
C  NWORDS = ( NBYTES+4 ) / 5
C  NIUCRUF(1) = OP ( SHIFT(NBYTES+12), NWORDS )
C  RESET OF DATA AVAILABLE BIT
C  IBFUL(15)=1
C  OLOBIT=BIT
C  IF DATA HAS BEEN SENT
C  IF(NIUTRUF-21656,656,654
C  THEN
C  SET DATA SENT FLAG
C  CONTINUE
C  IBFUL2(5)=1
C  ELSE
C  FLAG NOT SET
C  CONTINUE
C  ENDIF
C  IDAM(1) = XOR( IDAM(1), SHIFT(1,4) )
C  GO TO 700
C  ELSE
C  CONTINUE
C  NO DATA TO BE OUTPUT
C  GO TO 700
C  ENDIF
C  ELSE
C  SET ERROR WORD WHEN STATUS OR DATA SENT FLAG NOT RESET
C  CONTINUE
C  IXFRERR(2) = IXFRERR(2) .OR. SHIFT(15,4)
C  IXFRERR(3) = IXFRERR(3) .OR. SHIFT(13,4)
C  GO TO 700
C  ENDIF
C  ELSE
C  SET ERROR WORD 1 - DATA NOT ACCEPTED BY PP
C  CONTINUE
C  IXFRERR(1) = IXFRERR(1) .CP. 20R
C  700 CONTINUE
C  ENDIF
C  END OF MODULE
C  RETURN
C  END
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VARIABLES	SN	TYPE	RELOCATION	ARRAY	REFS
1775 DIFAR		REAL	/	ARRAY	41
4231 OLYPHIR		REAL	/		60
2301 EXPOIP		REAL	/	ARRAY	41
4753 FANGLM		REAL	/		60
11107 FI		REAL	/	ARRAY	70
2244 FIXDES		REAL	/	ARRAY	41
11257 FRLDG		REAL	/	ARRAY	70
355 FIPE		REAL	/	ARRAY	23
340 FTPNAV		REAL	/	ARRAY	23
11321 GAMMAS		REAL	/	ARRAY	74
4602 GMLNDAC		REAL	/	ARRAY	60
4232 GRAZANG		REAL	/	ARRAY	60
0 HELO		REAL	/	ARRAY	23
0 HELOIC		REAL	/	ARRAY	34
256 HELOST		REAL	/	ARRAY	23
6 HKTIME		REAL	/	ARRAY	49
0 HOPLM		REAL	/	ARRAY	75
4126 IACGPMO		INTEGER	/	ARRAY	52
4202 IACDATX		INTEGER	/	ARRAY	52
4206 IACDATY		INTEGER	/	ARRAY	52
4140 IACST		INTEGER	/	ARRAY	52
3 IATLCNT		INTEGER	/	ARRAY	45
0 IATOFOG		INTEGER	/	ARRAY	84
393 IAUTMAD		INTEGER	/	ARRAY	23
4143 IAUTO		INTEGER	/	ARRAY	52
4147 IAUTOCH		INTEGER	/	ARRAY	52
0 IBSUL1		INTEGER	/	ARRAY	85
15 IBSUL2		INTEGER	/	ARRAY	35
4216 IBOYCNT		INTEGER	/	ARRAY	52
5 ICASONT		INTEGER	/	ARRAY	45
370 ICOTMOS		INTEGER	/	ARRAY	34
4234 ICFAR		INTEGER	/	ARRAY	60
366 ICFIRST		INTEGER	/	ARRAY	34
3627 ICH		INTEGER	/	ARRAY	52
4176 ICHNDAT		INTEGER	/	ARRAY	52
7 ICONCNT		INTEGER	/	ARRAY	45
22 ICSSDFG		INTEGER	/	ARRAY	45
11 ICURCNT		INTEGER	/	ARRAY	45
12 ICYDOS		INTEGER	/	ARRAY	49
3 IDAYLNK		INTEGER	/	ARRAY	49
15 IDATUM		INTEGER	/	ARRAY	45
11324 IDAM		INTEGER	/	ARRAY	74
254 IDCEPR		INTEGER	/	ARRAY	34
252 IDECERE		INTEGER	/	ARRAY	34
4 IDRCNT		INTEGER	/	ARRAY	45
4217 IDFX		INTEGER	/	ARRAY	52
11 IDSFIP		INTEGER	/	ARRAY	49
11575 IDSPACU		INTEGER	/	ARRAY	77
4754 IEMIT		INTEGER	/	ARRAY	68
265 IEQUIP1		INTEGER	/	ARRAY	387
266 IEQUIP2		INTEGER	/	ARRAY	93
253 IEPIC		INTEGER	/	ARRAY	34

SUBROUTINE HIU1

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VARIABLES	SN	TYPE	RELOCATION	REFS	114	119	120	121	122	124
255	IER2C	INTEGER	DEFAULT	REFS	103	119	120	121	122	124
21	IEPCNT	INTEGER	SYMFGL	REFS	207	210	214	225	229	230
4742	IFAIL	INTEGER	ARRAY	REFS	236	251	252	254	258	269
12	IFIXCNT	INTEGER	SYMFGL	REFS	272	287	288	290	294	305
11316	IFRANO	INTEGER	SYMFGL	REFS	311	87	128	133	214	219
1	IFPCNT	INTEGER	SYMFGL	REFS	245	263	276	281	294	299
2	IFELCOF	INTEGER	SYMFGL	REFS	316	236	254	272	290	307
23	IFELCUR	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4174	IFPG	INTEGER	ARRAY	REFS	124	236	254	272	290	307
5	IKVFF	INTEGER	TACFLGS	REFS	124	236	254	272	290	307
1	ILCNTL	INTEGER	TACFLGS	REFS	124	236	254	272	290	307
5374	ILIS	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
6	IMACNT	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
107	INB	INTEGER	DEFAULT	REFS	124	236	254	272	290	307
260	INPNDX	INTEGER	DEFAULT	REFS	124	236	254	272	290	307
261	INPSIZE	INTEGER	DEFAULT	REFS	124	236	254	272	290	307
4021	INTGTM	INTEGER	ARRAY	REFS	124	236	254	272	290	307
5575	INTVSM	INTEGER	ARRAY	REFS	124	236	254	272	290	307
5691	IOCTAVE	INTEGER	ARRAY	REFS	124	236	254	272	290	307
11320	ION	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
13	IONTOP	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
7	IONTOPF	INTEGER	TACFLGS	REFS	124	236	254	272	290	307
110	IOU18	INTEGER	DEFAULT	REFS	124	236	254	272	290	307
4150	IPASOUT	INTEGER	DEFAULT	REFS	124	236	254	272	290	307
4	IPACOR	INTEGER	TACFLGS	REFS	124	236	254	272	290	307
1602	IPDEC	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4235	IPERSIS	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
14	IPONTER	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
20	IPROPOS	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4212	IPSVCLP	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
1577	IPICOR	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
10	IPRCNT	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4236	IPDFILE	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4426	IPORDEC	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4465	IPORIDX	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4466	IPORMOE	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4526	IPORSC	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4467	IPDSIZE	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4233	IPDSYMB	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
103	IREGFI	INTEGER	DEFAULT	REFS	124	236	254	272	290	307
2	IREFCNT	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4470	IRETURN	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
4134	IRFCH	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
24	IRNGFOD	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
1710	IRPTOTR	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
3746	IR2	INTEGER	SYMFGL	REFS	124	236	254	272	290	307
365	ISCALIC	INTEGER	DEFAULT	REFS	124	236	254	272	290	307

RELOCATION

VARIABLES SN TYPE

4527	ISEASIE	INTEGER	/	/	REFS	60
4025	ISELAY	INTEGER	/	/	REFS	52
4741	ISIZE	INTEGER	/	/	REFS	60
16	ISMKCN	INTEGER	SYN	SYN	REFS	45
3641	ISONCAT	INTEGER	SYN	SYN	REFS	45
4132	ISONCLN	INTEGER	/	/	REFS	52
16362	ITACVAL	INTEGER	/	/	REFS	52
1571	ITGCNT	INTEGER	/	/	REFS	77
256	ITGDET	INTEGER	/	/	REFS	23
4530	ITGDN	INTEGER	DEFAULT	/	REFS	34
4011	ITHR	INTEGER	/	/	REFS	52
17	ITORDS	INTEGER	/	/	REFS	60
5430	ITRKFIL	INTEGER	SYN	SYN	REFS	45
370	ITUNE	INTEGER	/	/	REFS	68
302	IVALUE	INTEGER	/	/	REFS	23
11153	IVCRN	INTEGER	/	/	REFS	232
25	IXFTP	INTEGER	/	/	REFS	70
0	IXFRERR	INTEGER	SYN	SYN	REFS	45
371	JASUFF	INTEGER	ERR	ERR	REFS	86
104	JCRUN	INTEGER	/	/	REFS	482
1572	JOWN	INTEGER	DEFAULT	/	REFS	23
1600	JPILCT	INTEGER	/	/	REFS	34
105	JPCINT	INTEGER	DEFAULT	/	REFS	23
4531	JRDR	INTEGER	/	/	REFS	60
1601	JRESET	INTEGER	/	/	REFS	23
1573	JSUB	INTEGER	/	/	REFS	23
4154	JTRC	INTEGER	/	/	REFS	52
12354	KAT08UF	INTEGER	/	/	REFS	77
11152	KPSVTHR	INTEGER	/	/	REFS	70
4640	KPRCYC	INTEGER	/	/	REFS	60
14354	K308UF	INTEGER	/	/	REFS	77
11323	KVALFTP	INTEGER	/	/	REFS	74
264	K1HZ	INTEGER	/	/	REFS	374
4036	LL	INTEGER	/	/	REFS	52
1574	MADAUTO	INTEGER	/	/	REFS	23
11572	MADDISP	INTEGER	/	/	REFS	77
4026	MSTRF	INTEGER	/	/	REFS	52
4133	MAXBUOY	INTEGER	/	/	REFS	52
366	MINUTES	INTEGER	/	/	REFS	23
1713	MISSION	INTEGER	/	/	REFS	23
367	MODESIM	INTEGER	/	/	REFS	23
13	MSKALFT	INTEGER	DEFAULT	/	REFS	34
16355	MSP3IT	INTEGER	TAC	TAC	REFS	49
11431	MSP18UF	INTEGER	/	/	REFS	77
11501	MSP08UF	INTEGER	/	/	REFS	77
11522	MSP18UF	INTEGER	/	/	REFS	77
11704	MUXA8UF	INTEGER	/	/	REFS	77
16356	MUX8IT	INTEGER	/	/	REFS	77
11501	MUX18UF	INTEGER	/	/	REFS	77
11563	MUX08UF	INTEGER	/	/	REFS	77
12304	MUX18UF	INTEGER	/	/	REFS	77
4642	M3	INTEGER	/	/	REFS	60

DEFINED 229 376 374 379

355 362 330 354

475 476 482 475 476

SUBROUTINE NIU1

CDC 6400 FTA V3.0-0280 CRT-1 7/10/12. 15.46.12.

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VARIABLES

SN TYPE

LOCATION

314	NAV	REAL	ARRAY	33	23	REFS	23	
111	NBC	INTEGER	ARRAY	34	24	REFS	24	
233	NPCA	INTEGER	ARRAY	34	34	REFS	34	
247	NBCM	INTEGER	ARRAY	34	34	REFS	34	
112	NPSIZ	INTEGER	ARRAY	34	34	REFS	34	
250	NBUFFRD	INTEGER	ARRAY	450	450	REFS	450	
303	NBYTES	INTEGER	ARRAY	451	451	REFS	451	
106	NBI	INTEGER	ARRAY	9A	9A	REFS	9A	
365	NHOURS	INTEGER	ARRAY	207	207	REFS	207	
16354	NIUBUF	INTEGER	ARRAY	103	103	REFS	103	
0	NIUBUF	INTEGER	ARRAY	230	230	REFS	230	
11326	NIUIRUF	INTEGER	ARRAY	234	234	REFS	234	
11340	NIUBUF	INTEGER	ARRAY	252	252	REFS	252	
262	NIURT	INTEGER	ARRAY	251	251	REFS	251	
11361	NIUTBUF	INTEGER	ARRAY	114	114	REFS	114	
5667	NOIS	INTEGER	ARRAY	287	287	REFS	287	
4015	NOTCH	INTEGER	ARRAY	287	287	REFS	287	
301	NOTCHBUF	INTEGER	ARRAY	270	270	REFS	270	
4532	NPD	INTEGER	ARRAY	288	288	REFS	288	
3633	NPNG	INTEGER	ARRAY	343	343	REFS	343	
10	NPFCOR	INTEGER	ARRAY	394	394	REFS	394	
3702	NRMGCMT	INTEGER	ARRAY	363	363	REFS	363	
367	NSECS	INTEGER	ARRAY	447	447	REFS	447	
3606	NUMBIN	INTEGER	ARRAY	2*449	2*449	REFS	2*449	
304	NWORS	INTEGER	ARRAY	388	388	REFS	388	
256	OLDRT	INTEGER	ARRAY	394	394	REFS	394	
257	OLDRT	INTEGER	ARRAY	363	363	REFS	363	
51	OWNSIC	REAL	ARRAY	450	450	REFS	450	
4533	PD	REAL	ARRAY	354	354	REFS	354	
4534	PHIP	REAL	ARRAY	429	429	REFS	429	
1711	PLOTXYZ	REAL	ARRAY	415	415	REFS	415	
1712	PLOTXYZ	REAL	ARRAY	372	372	REFS	372	
2277	PPOINT	REAL	ARRAY	411	411	REFS	411	
300	PPII	INTEGER	ARRAY	411	411	REFS	411	
2274	PREDPOS	REAL	ARRAY	411	411	REFS	411	
263	PROINIT	LOGICAL	ARRAY	411	411	REFS	411	
4627	RACROSS	REAL	ARRAY	411	411	REFS	411	
4535	RCNOISE	REAL	ARRAY	411	411	REFS	411	
4536	RDRNGNM	REAL	ARRAY	411	411	REFS	411	
1714	REFMLL	REAL	ARRAY	411	411	REFS	411	
253	REFIP	REAL	ARRAY	411	411	REFS	411	
2173	RNGCIR	REAL	ARRAY	411	411	REFS	411	
275	RT	INTEGER	ARRAY	411	411	REFS	411	
3706	PI	REAL	ARRAY	411	411	REFS	411	
11150	SANGER	REAL	ARRAY	411	411	REFS	411	
113	SCI	REAL	ARRAY	411	411	REFS	411	
3	SELFIST	INTEGER	ARRAY	411	411	REFS	411	

VARIABLES SN TYPE RELOCATION

2243	SENSHOR	REAL	41
4537	SF	REAL	60
232	SHIPCOM	REAL	23
174	SHIPNAV	REAL	23
2404	SHPTRKU	REAL	41
5647	SIG	REAL	70
4544	SIGMA	REAL	60
4545	SIGMAC	REAL	60
5707	SIGNAL	REAL	70
5627	SIN3	REAL	70
7707	SIND	REAL	70
4577	SNPHIR	REAL	60
67	SONOIC	REAL	34
18363	SYKATO	REAL	77
18365	SYKSO	REAL	77
18361	TACREAR	REAL	77
18360	TACRANG	REAL	77
5	TARGIC	REAL	34
30	TARGNAV	REAL	23
354	TIME	REAL	23
1707	TIMTICK	REAL	23
2266	TORPED	REAL	41
272	TR	INTEGER	191
2311	TRACKS	REAL	121
2405	TRCKSHIP	REAL	41
0	TRKTIME	REAL	49
4541	TR12	REAL	60
2377	WEAFTP	REAL	41
251	WHEN	REAL	34
361	WIND	REAL	23
3637	XBUOYDR	REAL	52
4667	XFA	REAL	60
4546	XINLSEA	REAL	60
2363	XHADCNT	REAL	41
2306	XONTOP	REAL	41
4572	XDCNTR	REAL	60
4570	XSN	REAL	60
4571	YBPD	REAL	60
3640	YBUOYDR	REAL	52
4714	YFA	REAL	60
4557	YINLSEA	REAL	60
4573	YDCNTR	REAL	60

EXTERNALS TYPE ARGS REFERENCES

PACKPP	2	447
XOR	2	20

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES

AND	NO TYPE	2	INTRIN	120	121	229	230	354	410	411
COMPL	NO TYPE	1	INTRIN	119	354					
FLOAT	REAL	1	INTRIN	232	381					
OR	NO TYPE	2	INTRIN	119	475					
SHIFT	NO TYPE	2	INTRIN	121	476	390	410	411	451	465

STATEMENT LABELS

DEF LINE REFERENCES

0 40	INACTIVE	106	2*103
11 50		110	323
11 100	INACTIVE	113	2*114
0 105	INACTIVE	118	2*124
0 107		127	124
25 110		131	129
26 120		134	137
0 202	INACTIVE	140	145
0 204	INACTIVE	148	2*145
34 210		157	158
0 212	INACTIVE	159	2*158
42 220		169	170
0 222	INACTIVE	171	2*170
46 230		178	2*137
47 300		183	184
0 302	INACTIVE	190	2*191
0 306	INACTIVE	196	191
53 310		201	2*210
0 325	INACTIVE	213	210
61 330		217	215
62 340		220	2*236
0 365	INACTIVE	239	236
76 370		243	241
77 380		246	2*254
0 405	INACTIVE	257	254
105 410		261	259
106 420		264	2*272
0 445	INACTIVE	275	272
114 450		279	277
115 460		282	2*290
0 485	INACTIVE	293	290
123 490		297	295
124 500		300	2*307
0 515	INACTIVE	310	307
131 520		314	312
132 530		317	199
132 535		319	156
132 540		321	114
133 600		324	329
0 601	INACTIVE	334	337
0 603	INACTIVE	340	2*337
144 606		346	2*329
145 610		350	2*355
0 613	INACTIVE	359	355
156 617		365	2*376
0 625	INACTIVE	378	393
177 627		399	395
201 628		400	
0 629	INACTIVE	404	
201 632		406	372
201 635		408	348
0 638	INACTIVE	420	415
0 640	INACTIVE	424	421
0 645	INACTIVE	432	2*429

168 177 181 2*184

376

STATEMENT LABELS

REF LINE REFERENCES

INACTIVE
INACTIVE

214 650
0 652
0 654
232 656
236 660
237 665
244 699
246 700

470

477

COMMON BLOCKS LENGTH 7415

MEMBERS - ARIAS NAME(LENGTH)

0 HELC (24)
124 SHIPNAV(30)
171 REFID (3)
224 FIPNAV (12)
241 WIND (2)
246 MINUTES(1)
249 JAGUFF (640)
891 JSUF (1)
896 JPLOT (1)
965 CX (1)
968 IPPTOT(1)
971 MISSION(1)
1016 DATUM (5)
1075 VMADONT(12)
1163 CURSOR (24)
1206 TOPREC (6)
1217 EXPCIR (5)
1279 WEAFIP (5)
1303 RUOYRW (320)
1947 NPNG (4)
1953 ISONDAT(32)
1990 R1 (32)
2055 ANS (1)
2061 NOTCH (4)
2070 MASTRF (64)
2139 MAXRUCY(1)
2145 CASSTIM(1)
2151 IAUOCH(1)
2172 IHFEG (2)
2182 IACDATY(4)
2191 IOFX (4)
2197 CLUTTER(1)
2200 DELZI (1)
2203 IDOSVMB(1)
2206 IRDFILE(120)
2358 IDOMCE(1)
2390 IDRSC (1)
2393 JDR (1)
2396 PHIR (1)
2399 SF (5)
2406 XINLSEA(9)
2425 YBPC (1)
2428 OFL13 (1)
2431 SNPHIF (1)
24 HELC (24)
124 SHIPNAV(30)
171 REFID (3)
224 FIPNAV (12)
241 WIND (2)
246 MINUTES(1)
249 JAGUFF (640)
891 JSUF (1)
896 JPLOT (1)
965 CX (1)
968 IPPTOT(1)
971 MISSION(1)
1016 DATUM (5)
1075 VMADONT(12)
1163 CURSOR (24)
1206 TOPREC (6)
1217 EXPCIR (5)
1279 WEAFIP (5)
1303 RUOYRW (320)
1947 NPNG (4)
1953 ISONDAT(32)
1990 R1 (32)
2055 ANS (1)
2061 NOTCH (4)
2070 MASTRF (64)
2139 MAXRUCY(1)
2145 CASSTIM(1)
2151 IAUOCH(1)
2172 IHFEG (2)
2182 IACDATY(4)
2191 IOFX (4)
2197 CLUTTER(1)
2200 DELZI (1)
2203 IDOSVMB(1)
2206 IRDFILE(120)
2358 IDOMCE(1)
2390 IDRSC (1)
2393 JDR (1)
2396 PHIR (1)
2399 SF (5)
2406 XINLSEA(9)
2425 YBPC (1)
2428 OFL13 (1)
2431 SNPHIF (1)
24 YAGNAV(68)
154 SHIPCOM(9)
174 HELOST (30)
236 TTFE (1)
243 IAUTMAD(2)
247 NSECS (1)
889 ITCONT (1)
892 MADAUTO(3)
897 JRESEY (1)
966 CV (1)
969 PLOTYZR(1)
972 REFMLL (32)
1021 DIFAP (30)
1097 CCNTAC (60)
1187 SENSHP(1)
1212 PPEOPDS(3)
1222 XONTOP (3)
1284 SHPTOKU(1)
1623 BUOYNAV(320)
1951 XBUOYFR(1)
1985 DELTS (1)
2022 IP2 (32)
2056 C (1)
2065 INTGTM(4)
2134 IAAGPMD(4)
2140 IPFCH (4)
2146 CASSPFD(1)
2152 IPASOUT(4)
2174 ICHNDAT(4)
2186 IPSVCLR(4)
2195 ACPOIME(1)
2198 DELVT (1)
2201 DLTHIR(1)
2234 ICFAE (1)
2326 IRDNOFC(31)
2359 IPDSI7E(1)
2381 ISEESTF(1)
2394 NPD (1)
2397 RCNOISE(1)
2404 SIGMA (1)
2415 YINLSEA(9)
2426 XPCONT(1)
2429 DCL23 (1)
2432 CSPHIR (1)
112 PCMAV (12)
163 CONVOY (14)
204 NAV (20)
237 TTFE (14)
245 MFCURS (1)
248 TTUNE (1)
800 JCWN (1)
805 IPTCORF(1)
898 IPCCEC (67)
967 TIMTICK(1)
970 PLOTYZR(1)
1004 ATCEEF (12)
1051 CSKOCR (24)
1147 RAGCIS (16)
1188 FIXDES (18)
1215 PCINTER(2)
1225 TRACKS (54)
1285 TRACKSHF(18)
1943 ICH (4)
1952 YBUOYDR(1)
1986 NENGONT(4)
2054 LL (1)
2057 TTFE (14)
2069 ISEL9Y (1)
2138 ISONCLN(1)
2144 IACSTIS (1)
2147 IAUIC (14)
2156 JTRCE (16)
2178 IACDATY(4)
2180 IBCVCA(1)
2196 A7SCNLM(1)
2199 DELVT (1)
2202 GAZANG(1)
2205 IFFERSIS(1)
2357 IRDFTOX(1)
2380 IRETUEN(30)
2392 ITGYN (1)
2395 PD (1)
2398 RCPACNM(1)
2405 SIGMAC (1)
2424 XSN (1)
2427 VRDONT(1)
2430 DCL33 (1)
2433 TSXCLN2I(1)

COMMON BLOCK MEMBERS - RIAS NAME(LENGTH)

COMMON BLOCK	LENGTH	MEMBERS
DEFAULT	249	2434 GNLDOAC(21)
		2465 TR12 (1)
		2508 YFA (21)
		2539 FANGLM(1)
		2940 ILIP (1)
		2949 AKR (1)
		2967 SINT (15)
		3015 SIGNAL (512)
		4551 ANARR (128)
		4712 SANGERR(1)
		4715 IVERN (64)
		4812 ALGAKFV(1)
		4815 AKERV (1)
		4818 REDETR (1)
		4822 NIURUF(10)
		4839 MSPURUF(40)
		4866 MAGCISP(3)
		5043 MUXORUF(17)
		5356 KATORUF(1024)
		7405 MSPFIT (1)
		7409 YACREAP(1)
		7413 STKSO (2)
		0 HELCIC (5)
		55 SONGIC (12)
69 JPOINT (1)		
72 IOUTR (1)		
75 SCT (80)		
168 NRUFFWD(1)		
171 IERIC (1)		
174 ITGOET (1)		
177 RUOVIC (64)		
246 ICFIRST(1)		
0 ISMKCNT(1)		
3 IATLCNT(1)		
6 IMACCNT(1)		
9 ICURCNT(1)		
12 IPONTER(1)		
15 ITGDS (1)		
18 ICSRFEG(1)		
21 IWFTP (1)		
0 TRKTIME(1)		
3 IOATLAK(1)		
6 HKTIME (1)		
9 IOSFIP (1)		
0 HORLIM (1)		
0 ANCONS (15)		
0 NIURUF (5)		
0 IAYCTCG(12)		
0 IAFUL1 (13)		
0 IXPERR(3)		
SYNFLG	22	5 TARGIC (36)
		67 IRECFIL(1)
		70 NPI (1)
		73 NRC (1)
		155 NGCA (12)
		169 WHEN (1)
		172 ICGERR(1)
		175 DELVVIC(1)
		241 OATUNIC(4)
		247 MODESIM(1)
		1 IFIPONT(1)
		4 IDPCNT(1)
7 IDGCNT(1)		
10 IFIXCNT(1)		
13 IDATUM (1)		
16 IPSOPDS(1)		
19 THELTUR(1)		
1 IHLCNTL(1)		
4 IPATCCP(1)		
7 IONTOPF(1)		
10 TCYDMS (1)		
YACFLGS	12	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
HORIZN	1	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
CONST	16	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
INDISC	5	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
RUFLLGS	26	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
ERRFLAG	4	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
STATISTICS	3058	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
COMMON LENGTH	5338	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
PROGRAM LENGTH	197	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
COMMON LENGTH	347	1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)
		1 IHLCNTL(1)
		4 IPATCCP(1)
		7 IONTOPF(1)
		10 TCYDMS (1)

STATISTICS

PROGRAM LENGTH	COMMON LENGTH
3058	197
5338	347

SUBROUTINE N111

STATISTICS

BLANK COMMON 153678

7415

DDC 4500 FIN V3.0-0380 OPT=1 78/06/12. 15.46.13.

PAGE

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C-----
C SUBROUTINE ADVANCE(POINTER,LWA)
C-----
C
C ABSTRACT
C THIS ROUTINE INCREMENTS A POINTER BY 1. IF THE POINTER WAS
C ALREADY SET TO AN LWA, THE POINTER IS RESET TO 1.
C
C POINTER - CURRENT VALUE OF POINTER
C
C LWA - LAST WORD ADDRESS FOR POINTER
C
C CODING HISTORY
C 1. PROGRAMMED--ALFX POTLECKI 11/04/77
C
C END OF ABSTRACT
C-----
C
C SUBROUTINE ADVANCE( K, KEND)
C IF POINTER IS LESS THAN LWA
C IF ( K .EQ. KEND ) GO TO 100
C THEN
C INCREMENT POINTER
C K = K + 1
C GO TO 200
C ELSE
C SET POINTER TO FWA
C 100. CONTINUE
C K = 1
C 200. CONTINUE
C ENDIF
C RETURN
C END
```

NDCCM 2
NDCCM 3
NDCCM 4
NDCCM 5
NDCCM 6
NDCCM 7
NDCCM 8
NDCCM 9
NDCCM 10
NDCCM 11
NDCCM 12
NDCCM 13
NDCCM 14
NDCCM 15
NDCCM 16
NDCCM 17
NDCCM 18
NDCCM 19
NDCCM 20
NDCCM 21
NDCCM 22
NDCCM 23
NDCCM 24
NDCCM 25
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NDCCM 28
NDCCM 29
NDCCM 30
NDCCM 31
NDCCM 32
NDCCM 33
NDCCM 34
NDCCM 35

SUBROUTINE ADVANCE

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 ADVANCE 20 33

VARIABLES SN TYPE RELOCATION
0 K INTEGER F.P.
0 KEND INTEGER F.P.

REFS 22 25 20 25 30
DEFS 22 20 20 20 20

STATEMENT LABELS DEF LINE REFERENCES
11 100 29 22
12 200 31 26

STATISTICS
PROGRAM LENGTH 148 12

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```

SUBPROGRAM EXPAND

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 EXPAND 24 35

VARIABLES SN TYPE RELOCATION
0 IN INTEGER F.P.
30 IN2 INTEGER
0 IOUT INTEGER ARRAY F.P.
31 K INTEGER
0 N INTEGER F.P.

REFS 26
REFS 30
REFS 26
REFS 30
REFS 25
REFS 24
REFS 24
REFS 24
REFS 28
REFS 28
REFS 26
REFS 24

INLINE FUNCTIONS TYPE ARCS DEF LINE REFERENCES
AND NO TYPE 2 INTRIN 30
SHIFT NO TYPE 2 INTRIN 26
32

STATEMENT LABELS DEF LINE REFERENCES
0 100 33 26

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES
22 100 K 28 33 38 INSTACK

STATISTICS
PROGRAM LENGTH 418 33


```
5  C-----
   C SUBROUTINE PACKPP( NPT, N)
   C
   C ABSTRACT
   C THIS ROUTINE IS A DUMMY SUBSTITUTE FOR THE ACTUAL PACKPP.
   C
   C NPT - NUMBER CORRESPONDING TO RT
   C
   C N - NUMBER OF WORDS TO BE *PACKED*
   C
   C CODING HISTORY
   C 1. PROGRAMMED--ALEX PODLECKI 11/07/77
   C
   C END OF ABSTRACT
   C-----
  10 C
  15 C SUBROUTINE PACKPP( NPT, N)
  20 C
  25 C EXIT
  30 C RETURN
  35 C END
  40 C
```

```
NDCCM 72
NDCCM 73
NDCCM 74
NDCCM 75
NDCCM 76
NDCCM 77
NDCCM 78
NDCCM 79
NDCCM 80
NDCCM 81
NDCCM 82
NDCCM 83
NDCCM 84
NDCCM 85
NDCCM 86
NDCCM 87
NDCCM 88
NDCCM 89
NDCCM 90
NDCCM 91
NDCCM 92
NDCCM 93
NDCCM 94
```

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 PACKPP 20 22

VARIABLES	SN	TYPE	RELOCATION
0 N		INTEGER	*UNUSED F.P.
0 NOT		INTEGER	*UNUSED F.P.

DEFINED 20
DEFINED 20

STATISTICS

PROGRAM LENGTH 68 6

XOP
STORAC

ALLOCATION.

ADDRESS

LENGTH

0
3

7

INARY CONTROL CARDS.

XOP

IDENT
END

ENTRY POINTS.

XOP

-

0

COMPASS - VER 2.

78/06/12. 15.46.26.

PAGE

XOR

COMPASS - VFF 2.

7/10/12. 15.46.26.

PAGE

2

IDENT
ENTRY
DATA
SA2
SA3
SA7
BX6
FO
END

NDCOM
NDCOM
NDCOM
NDCOM
NDCOM
NDCOM
NDCOM
NDCOM
NDCOM
NDCOM

95
96
97
98
99
100
101
102
103

0 00000000000000000000
1 53210 5031000001 53330
2 13623 0400000000 +
3

XOR
XOR
0
X1
A1+1
X3
X2-X3
XOR

STORAGE USED
6600 ASSEMBLY

43200

9 STATEMENTS
0.020 SECONDS

1 SYMBOLS
3 REFERENCES

XOR SYMBOLIC REFERENCE TABLE.

XOR C PROGRAM*

2/02 E 2/03 L

2/08

15.45.16.CSC,CB7777,I30.		
15.45.17.ACCOUNT,SC1334..		
15.45.17.GET,MFCSC,MPSRC,CUXO,NIU1PL.		
15.45.19.UPDATE,I=MPSRC,L=J.		
15.45.19.UPDATE,CREATION RUN		
15.45.19.CREATING NEW PROGRAM LIBRARY		
15.45.21.UPDATE COMPLETE.		
15.45.22.FIN,I=COMPILE,R=3.		
15.45.40.2.007 CP SECONDS COMPILE TIME		
15.45.40.UPDATE,I=CMUXO,L=0.		
15.45.41.UPDATE,CREATION RUN		
15.45.41.*** WARNING, RETURNING PRIOR NEWPL ***		
15.45.42.CREATING NEW PROGRAM LIBRARY		
15.45.43.UPDATE COMPLETE.		
15.45.44.FIN,I=COMPILE,R=3.		
15.46.10.2.208 CP SECONDS COMPILE TIME		
15.46.11.UPDATE,I=NIU1PL,L=J.		
15.46.11.UPDATE,CREATION RUN		
15.46.11.*** WARNING, RETURNING PRIOR NEWPL ***		
15.46.11.CREATING NEW PROGRAM LIBRARY		
15.46.13.UPDATE COMPLETE.		
15.46.13.FIN,I=COMPILE,R=3.		
15.46.26.1.049 CP SECONDS COMPILE TIME		
15.46.26.DAYFILE,0.		
15.46.27.USER DAYFILE DUMPER.		
15.46.27.DISPOSE,0=PR/VI=CO9032.		
15.46.27.EXIT.		
15.46.27.COMPUTER UNITS AT.10 P = 1.		
15.46.27.CP 6.476 SEC.	\$	5.01
15.46.27.CH 29.393 KWD.	\$	
15.46.27.IO 10.002 SEC.	\$	0.66
15.46.27.IM 26.606 KWD.		
15.46.27.TAPES SCHEDULED 00		
15.46.27.PACKS SCHEDULED 00		
15.46.27.SERVICE CHARGE	\$	2.50
15.46.27.	-----	
15.46.27.SUBTOTAL	\$	9.17
16.55.28.LP63 14.656 KLN.		
16.55.28.LP CHARGE CSCCML.	\$	12.21

POW

ORDNANCE LAUNCH CONTROL SET MODULE

(OLCS)

```

C-----2
C PROGRAM DRIVER                                CLCS
C                                             CLCS
C                                             CLCS
C ABSTRACT                                     CLCS
C DRIVER PROGRAM TO TEST CLCS SUBROUTINE.      CLCS
C CODING HISTORY                             CLCS
C 1. PROGRAMMED J. MANGES CSC DEC JAN 1977,78 CLCS
C END OF ABSTRACT                           CLCS
C-----10
C BLOCK DATA                                CLCS
C                                             CLCS
C COMMON/SIMULAT/IRTRUFF(50,13),LWINRT(13),NROUTPT(17),IXREFPR(3),
*IAOTOG(3),IATOM(4),ICADTPP(103),LUPBLK(270),IDAW(2),HELCO(24),
*WIND(2),TIME,BUOYIC(2,25),BUCYRM(10,32),ISELBY,
*TORPED(3,2),ITORDS,NTORPS,IBFUL1(13),IRFUL2(13)
C
C COMMON/MODULE/19,IERFOR,IFTSW,ICOLDPT,IDAOW1,IDAOW2,ICOLDW1,
*ICOLDW2,IRITSWD,IOLDSK,ICCDW,ICSTATE,ISAWAY,
*ITAWAY,ODO,ISKIP,SECALC,TCALC,IDAOW,IRTR
C
C COMMON/DRIVER/NCOUNT
C
C DATA ICCDW/0/
C DATA IXREFPR/3*0/
C DATA ITOPDS/0/
C DATA ICPEPO/6*0./
C DATA BUOYPM/320*0./
C DATA ISKIP/0/
C DATA IERFOR/0/
C DATA ISELBY/0/
C DATA TIME/3600./
C DATA HELC/3,14,-1,0,,9*0.,400.,500.,100.,5*3.,60.,3*0./
C DATA ISAWAY,ITAWAY/2*0/
C DATA WIND/45.,10./
C DATA IRITSWD,IOLDRI,IDAOW1,IDAOW2,ICOLDW1,ICOLDW2,IRITSWD,
*ICOLDPSK/144000,144000,1776038,1777778,1776038,1777778,144000,
*144000/
C DATA IRFUL1(7),IRFUL2(7),ICAN,SRCALC,TCALC,ICSTATE,IDAOW,IRTRP/
*9*0/
C DATA NCOUNT/0/
C DATA IAOTOG/3*0/
C DATA NROUTPT/13*1/
C DATA LWINRT/13*1/
C DATA IATOM/4*0/
C DATA IRTRUFF/650*0/
C DATA ICADTPP/103*0/,LUPBLK/270*0/
C-----40
C SET INITIAL CHUTE LOADING
C-----50
C DATA (BUOYIC(1,J),J=1,25)/5*1,5*2,5*3,5*4,5*5./
C
C END

```


SYMBOLIC REFERENCE MAP

VARIABLES	SN	TYPE	RELOCATION	REFS	12	DEFINED	50
2100 BUOYIC	REAL	ARRAY	SIMULAT	REFS	12	DEFINED	50
2162 BUOYRM	REAL	ARRAY	SIMULAT	REFS	12	DEFINED	27
16 OOC	REAL	MODULE	MODULE	REFS	17		
2045 HELO	REAL	ARRAY	SIMULAT	REFS	12	DEFINED	32
1252 IATOM	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	44
1247 IATOTOG	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	41
0 IB	INTEGER	MODULE	MODULE	REFS	17		
2673 IBFUL1	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	38
2710 IBFUL2	INTEGER	- ARRAY	SIMULAT	REFS	12	DEFINED	38
10 IBTISHO	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
12 ICCOM	INTEGER	MODULE	MODULE	REFS	17	DEFINED	23
22 IDATIR	INTEGER	MODULE	MODULE	REFS	17	DEFINED	38
4 IDATW01	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
5 IDATW02	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
2343 IDAM	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	38
1 IERRC	INTEGER	MODULE	MODULE	REFS	17	DEFINED	29
1256 IOADTPP	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	46
11 IOLODSW	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
6 IOLODM1	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
7 IOLODM2	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
3 IOLODT	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
13 IOSTATE	INTEGER	MODULE	MODULE	REFS	17	DEFINED	38
0 IRTBUFF	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	45
2 IRTSHO	INTEGER	MODULE	MODULE	REFS	17	DEFINED	35
23 IRTIR	INTEGER	MODULE	MODULE	REFS	17	DEFINED	38
14 ISAWAY	INTEGER	MODULE	MODULE	REFS	17	DEFINED	33
2662 ISELSY	INTEGER	SIMULAT	SIMULAT	REFS	12	DEFINED	30
17 ISKIP	INTEGER	MODULE	MODULE	REFS	17	DEFINED	28
15 ITAHAY	INTEGER	MODULE	MODULE	REFS	17	DEFINED	33
2671 ITOPDS	INTEGER	SIMULAT	SIMULAT	REFS	12	DEFINED	25
1244 IXFREPR	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	24
1425 LUPBLK	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	46
1212 LWINRT	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	43
0 NCOUNTIR	INTEGER	DRIVER	DRIVER	REFS	21	DEFINED	40
2672 NTORPS	INTEGER	SIMULAT	SIMULAT	REFS	12	DEFINED	42
1227 NHCUTPT	INTEGER	ARRAY	SIMULAT	REFS	12	DEFINED	38
20 SBOALC	REAL	MODULE	MODULE	REFS	17	DEFINED	38
21 TCALC	REAL	MODULE	MODULE	REFS	17	DEFINED	31
2077 TIME	REAL	SIMULAT	SIMULAT	REFS	12	DEFINED	26
2663 TORPED	REAL	ARRAY	SIMULAT	REFS	12	DEFINED	26
2075 WIND	REAL	ARRAY	SIMULAT	REFS	12	DEFINED	34

COMMON BLOCKS	LENGTH	1493
SIMULAT		

MEMBERS - BIAS NAME(LENGTH)	
0 IRTPUFF(650)	
676 IXFREPR(3)	
686 IOADTPP(103)	
1061 HELO (24)	
1088 BUOYIC (50)	
1459 TORPED (6)	
1467 IBFUL1 (13)	
0 IB	

650 LWINRT (13)	
679 IATOTOG(3)	
789 LUPBLK (270)	
1085 WIND (2)	
1133 PUOYPM (320)	
1465 ITOPDS (1)	
1480 IBFUL2 (13)	
1 IERRC (1)	

563 NHCUTPT(13)	
582 IATOM (4)	
1059 ICAW (2)	
1087 TIME (1)	
1458 ISELBY (1)	
1466 NTORPS (1)	
2 IRTSHO(1)	

BLOCK DATA

CDC 6600 CTN V3.0-PRM0 OPT=1 78/06/12. 15.14.02. PAGE

COMMON BLOCK	LENGTH	MEMBERS	RTAS NAME(LENGTH)
		3	ICLORT (1)
		6	ICLDOW1 (1)
		9	ICLCHSW (1)
		12	ISAWAY (1)
		15	ISKIP (1)
		18	INATIR (1)
		0	NCOUNT (1)
DRIVER	1		

STATISTICS
 PROGRAM LENGTH 08
 COMMON LENGTH 27528 1514

- 4 IDATWD1 (1)
- 7 ICLDOW2 (1)
- 10 ICCOW (1)
- 13 ITAWAY (1)
- 16 SCALC (1)
- 19 IRITE (1)
- 5 ICALWD2 (1)
- 8 IETTSWD (1)
- 11 TCSTATE (1)
- 14 DCC (1)
- 17 TCALC (1)


```
60      C      CALL PRINT
        C      ERROR WORD 1
        C
        WRITE(6,2)
        WRITE(6,3)
        9  FORMAT(21X,"ERROR WORD 1 PROCESSING")
        C      SET DATA AVAILABLE FLAGS TO OPPOSITE VALUES
        CALL FLAG
        CALL SETBIT(IDAW(2),1,1)
        C      CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS
        CALL PRINT
        CALL CLCS
        C      RESET ERROR WORDS AND FLAGS
        IXPERR(1)=0
        IXPERR(2)=0
        IXPERR(3)=0
        CALL FLAG
        C-----
        C      CHANGE IN BIT STATUS WORD
        C-----
        C
        WRITE(6,2)
        WRITE(6,1)
        WRITE(6,10)
        10 FORMAT(24X,"CHANGE IN BIT STATUS")
        C      SET A BIT IN THE BIT STATUS WORD
        CALL SETBIT(BITSND,7,1)
        C      CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS
        CALL PRINT
        CALL CLCS
        CALL PRINT
        C      RESET FLAGS
        CALL FLAG
        C-----
        C      OSRU SELF TEST SEQUENCE
        C-----
        C
        WRITE(6,2)
        WRITE(6,1)
        WRITE(6,12)
        12 FORMAT(21X,"OSRU SELF TEST SEQUENCE")
        C      SET COMMAND WORD INTO THE INPUT BUFFER
        IPTBUFF(1,7)=14400:R
        C      SET BUFFER POINTER
        LWINPT(7)=2
        C      CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS
        CALL PRINT
        CALL CLCS
        CALL PRINT
        C      RESET FLAGS
        CALL FLAG
        C      DECREMENT THE BIT COUNTER
        DO WHILE I IS LESS THAN 372
        110      C
```

```
CLCS 62
CLCS 63
CLCS 64
CLCS 65
CLCS 66
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CLCS 69
CLCS 100
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CLCS 139
CLCS 140
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CLCS 144
CLCS 145
CLCS 146
```


Line	Code	Text	Address
115	C	00 11 I=1,372 CALL OLC5 11 CONTINUE ENDDC CALL PRINT DO WHILE I IS LESS THAN 3 DO 20 I=1,3 CALL FLAGS CALL OLC5 CALL PRINT 20 CONTINUE ENDDC- OSRU INITIALIZATION SEQUENCE	141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201
120	C	WRITE(6,2) WRITE(6,1) WRITE(6,45) 45 FORMAT(22X,"OSRU INITIALIZATION SEQUENCE") WRITE(6,1) C SET INITIALIZE TERMINAL COMMAND IN INPUT BUFFER IFIBUFF(2,7)=1440018 C SET BUFFER POINTER LWINT(7)=3 CALL PRINT CALL OLC5 CALL PRINT C SET INITIATE PROCESSING COMMAND IN INPUT BUFFER IPTBUFF(3,7)=1440048 C SET BUFFER POINTER LWINT(7)=4 CALL PRINT CALL OLC5 CALL PRINT CALL OLC5 RESET FLAGS CALL FLAGS	162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201
135	C	OSRU NORMAL DATA TRANSFER SEQUENCE	184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201
140	C	WRITE(6,2) WRITE(6,1) WRITE(6,55) 55 FORMAT(19X,"OSRU NORMAL DATA TRANSFER SEQUENCE") WRITE(6,1) C SET NORMAL DATA TRANSFER COMMAND IN INPUT BUFFER IFIBUFF(4,7)=1460428 C SET BUFFER POINTER LWINT(7)=5 C SET DATA SENT FLAG IBFUL2(7)=1 CALL PRINT CALL OLC5 CALL PRINT	191 192 193 194 195 196 197 198 199 200 201
145	C	OSRU DISCRETES	200 201

Line	Code	Text	Address
225	C	CALL SETABIT(IATOTCG(2),2,1)	OLCS
	C	CALL SETABIT(IATOTCG(1),2,0)	OLCS
	C	ATTEMPT TO FIRE TORPEDO WITH TORPEDO ARM OFF	OLCS
	C	SET TORPEDO ARM OFF	OLCS
	C	WRITE(6,2)	OLCS
	C	WRITE(6,9)	OLCS
230	C	94 FORMAT(1X,"ATTEMPT TO FIRE TORPEDO WITH TORPEDO ARM OFF")	OLCS
	C	CALL SETABIT(IATOTCG(1),3,0)	OLCS
	C	SET MANUAL TORPEDO FIRE DISCRETE	OLCS
	C	CALL SETABIT(IATOTCG(1),2,1)	OLCS
	C	CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS	OLCS
	C	CALL PRINT	OLCS
	C	CALL CLCS	OLCS
	C	CALL PRINT	OLCS
235	C	ATTEMPT TO FIRE THREE TORPEDOES	OLCS
	C	WRITE(6,2)	OLCS
	C	WRITE(6,95)	OLCS
240	C	95 FORMAT(20X,"ATTEMPT TO FIRE THREE TORPEDOES")	OLCS
	C	SET ARM AND FIRE DISCRETES	OLCS
	C	CALL SETABIT(IATOTCG(1),3,1)	OLCS
	C	CALL SETABIT(IATOTCG(1),2,1)	OLCS
	C	CALL SETABIT(IATOTCG(2),2,1)	OLCS
	C	CALL PRINT	OLCS
	C	FIRE THE SECOND TORPEDO	OLCS
	C	CALL CLCS	OLCS
	C	RESET TORPEDO FIRE	OLCS
	C	CALL SETABIT(IATOTCG(1),2,0)	OLCS
	C	CALL PRINT	OLCS
	C	CALL CLCS	OLCS
	C	CALL PRINT	OLCS
	C	ATTEMPT TO FIRE A THIRD TORPEDO	OLCS
	C	SET TORPEDO FIRE DISCRETE	OLCS
	C	CALL SETABIT(IATOTCG(1),2,1)	OLCS
	C	CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS	OLCS
	C	CALL PRINT	OLCS
	C	CALL CLCS	OLCS
	C	CALL PRINT	OLCS
	C	RESET DISCRETES	OLCS
	C	IATOTCG(1)=0	OLCS
	C	IATOTCG(2)=0	OLCS
	C	RESET FLAGS	OLCS
	C	CALL FLAGS	OLCS
265	C	SONOBUOY SELECT AND LAUNCH MODE	OLCS
	C	WRITE(6,2)	OLCS
	C	WRITE(6,100)	OLCS
270	C	100 FORMAT(1X,"*** SONOBUOY AUTO SELECT AND LAUNCH MODE ***")	OLCS
	C	SET SONOBUOY AUTO SELECT AND LAUNCH MODE	OLCS
	C	CALL SETABIT(IATOTCG(2),0,0)	OLCS
	C	CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS	OLCS
	C	CALL PRINT	OLCS
	C	CALL CLCS	OLCS

Line	Code	Statement	Label
335	C	CALL PRINT RESET ALL DISCRETES IAOTOG(1)=0 IAOTOG(2)=0 IAOM(1)=0 RESET FLAGS CALL FLAGS	368 369 370 371 372 373 374
340	C	----- SEQUENCE 1- AUTO SELECT MODE, AUTO LAUNCH COMMAND (CHUTE 1) ----- WRITE(6,2) WRITE(6,1) WRITE(6,150)	375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391
345	C	150 FORMAT(11X,"SEQUENCE 1- AUTO SELECT MODE, AUTO LAUNCH CHUTE 1") WRITE(6,1) SET SONARBUOY AUTO SELECT AND LAUNCH MODE DISCRETE CALL SETABIT(IAOTOG(2),0,0) SET MASTER ARM CN	392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421
350	C	CALL SETABIT(IAOTOG(2),2,1) CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS CALL PRINT CALL CLCS CALL PRINT RESET FLAGS CALL FLAGS	422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000
355	C	SET CONTROL COMMAND DATA TRANSFER COMMAND WORD IN INPUT BUFFER IBUFF(5,7)=1442418 SET BUFFER POINTER LWINS(7)=8 SET CONTROL COMMAND DATA WORD IN INPUT BUFFER IBUFF(6,7)=55008 SET BUFFER POINTER LWINS(7)=8 CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS CALL PRINT CALL CLCS CALL PRINT RESET FLAGS CALL FLAGS	400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478

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390 C SEQUENCE 2- MANUAL SELECT MODE, MANUAL LAUNCH COMMAND (CHUTE 16) CLCS 422
C-----
WRITE(6,2) CLCS 423
WRITE(6,1) CLCS 424
WRITE(6,180) CLCS 425
WRITE(6,1) CLCS 426
WRITE(6,1) CLCS 427
WRITE(6,1) CLCS 428
WRITE(6,1) CLCS 429
WRITE(6,1) CLCS 430
WRITE(6,1) CLCS 431
WRITE(6,1) CLCS 432
WRITE(6,1) CLCS 433
WRITE(6,1) CLCS 434
WRITE(6,1) CLCS 435
WRITE(6,1) CLCS 436
WRITE(6,1) CLCS 437
WRITE(6,1) CLCS 438
WRITE(6,1) CLCS 439
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WRITE(6,1) CLCS 441
WRITE(6,1) CLCS 442
WRITE(6,1) CLCS 443
WRITE(6,1) CLCS 444
WRITE(6,1) CLCS 445
WRITE(6,1) CLCS 446
WRITE(6,1) CLCS 447
WRITE(6,1) CLCS 448
WRITE(6,1) CLCS 449
WRITE(6,1) CLCS 450
WRITE(6,1) CLCS 451
WRITE(6,1) CLCS 452
WRITE(6,1) CLCS 453
WRITE(6,1) CLCS 454
WRITE(6,1) CLCS 455
WRITE(6,1) CLCS 456

190 FORMAT(11X,"SEQUENCE 2- MANUAL SELECT CHUTE 16, MANUAL LAUNCH")
C SET SONOBUOY MANUAL SELECT AND LAUNCH MODE DISCRETE
CALL SETABIT(IATOTOG(2),0,1)
C SET SONOBUOY MANUAL SELECT CHUTE 16 DISCRETE
CALL SETABIT(IATOTOG(1),5,1)
C SETABIT(IATOTOG(1),12,1)
CALL SETABIT(IATOTOG(1),13,1)
C SET SONOBUOY MANUAL LAUNCH COMMAND DISCRETE
CALL SETABIT(IATOTOG(1),13,1)
C CHECK VARIABLES, CALL CLCS, AND CHECK THE RESULTS
CALL PRINT
CALL CLCS
CALL PRINT
C RESET FLAGS
CALL CLCS
C RESET LAUNCH COMMAND
CALL SETABIT(IATOTOG(1),13,0)
C SONOBUOY AWAY SIGNAL
DO WHILE I IS LESS THAN SEVEN
DO 190 I=1,7
CALL CLCS
190 CONTINUE
C ENDDO
CALL PRINT
CALL CLCS
CALL PRINT
CALL CLCS
CALL PRINT
STOP5
END

```

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
6075 DRIVER 1

VARIABLES	SN	TYPE	RELOCATION
2100 BUOYIC		REAL	ARRAY SIMULAT
2162 BUOYSH		REAL	ARRAY SIMULAT
16 DDC		REAL	MODULE
2045 HELO		REAL	ARRAY SIMULAT
7356 I		INTEGER	-ARRAY
1252 IATOH		INTEGER	ARRAY
1247 IATOTOG		INTEGER	ARRAY
0 IB		INTEGER	MODULE
2673 IBFUL1		INTEGER	ARRAY
2710 IBFUL2		INTEGER	ARRAY
10 IBITSND		INTEGER	MODULE
12 ICCDW		INTEGER	MODULE
22 IDATIR		INTEGER	MODULE
4 IDATHD1		INTEGER	MODULE
5 IDATHD2		INTEGER	MODULE
2043 IDAN		INTEGER	ARRAY
1 IEPROR		INTEGER	MODULE
1256 IOADTTP		INTEGER	ARRAY
11 IOLOBSW		INTEGER	MODULE
6 IOLODM1		INTEGER	MODULE
7 IOLODM2		INTEGER	MODULE
3 IOLOST		INTEGER	MODULE
13 IQSTATE		INTEGER	MODULE
0 IRTBUFF		INTEGER	ARRAY
2 IRTSTWD		INTEGER	MODULE
23 IRTIR		INTEGER	MODULE
14 ISANAY		INTEGER	MODULE
2662 ISELBY		INTEGER	MODULE
17 ISKIP		INTEGER	MODULE
7160 IT		INTEGER	MODULE
15 ITAWAY		INTEGER	MODULE
2671 ITOROS		INTEGER	MODULE
1244 IXFERR		INTEGER	ARRAY
1425 LUPALK		INTEGER	ARRAY
1212 LWINT		INTEGER	ARRAY
2672 NTOEPS		INTEGER	MODULE
1227 NWOUTRT		INTEGER	MODULE
20 SBCALC		REAL	MODULE
21 TCALC		REAL	MODULE
2077 TIME		REAL	MODULE
2663 TORPED		REAL	MODULE
2075 WIND		REAL	MODULE

REFS	117	195	321	372	410	335
REFS	312	399	407	DEFINED	318	215
REFS	179	181	183	205	213	255
REFS	228	230	242	247	244	382
REFS	295	296	310	347	349	334
REFS	297	DEFINED	261	262	333	
REFS	394					
REFS	396					
REFS	39					
REFS	52					
REFS	84					
REFS	65					
REFS	100					
REFS	132					
REFS	139					
REFS	156					
REFS	157					
REFS	12					
REFS	71					
REFS	72					
REFS	73					
REFS	102					
REFS	134					
REFS	141					
REFS	158					
REFS	359					
REFS	2*18A					

FILE NAMES

2022 ERROR

0 INPUT

4044 OUTPUT

4044 TAPE6

FMT

WRITES

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REFERENCES

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STATEMENT LABELS

7155 1 FMT

DEF LINE

REFERENCES

21

27

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95

127

7155 1 FMT

DEF LINE

REFERENCES

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27

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79

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95

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7155 1 FMT

DEF LINE

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STATEMENT LABELS

STATEMENT LABELS	DEF LINE	REFERENCES
7262 94 FMT	227	226
7271 95 FMT	240	239
7276 100 FMT	270	269
7304 110 FMT	279	278
7313 130 FMT	293	292
7321 140 FMT	308	307
0 145 FMT	323	321
7327 150 FMT	344	343
0 155 FMT	374	372
7336 180 FMT	391	390
0 190 FMT	412	410

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES	EXT	OFFS
6267	11	* I	111 113	58		EXT	OFFS
6276	20	* I	117 121	119		EXT	REFS
6442	92	* I	195 197	58		EXT	REFS
6673	145	* I	321 323	58		EXT	REFS
6763	155	* I	372 374	58		EXT	REFS
7044	190	* I	410 412	58		EXT	REFS

COMMON BLOCKS LENGTH 1493

MEMBERS - RIAS NAME(LENGTH)

0	IRTSUFF(650)
676	IXFRERR(3)
686	IOACTPP(103)
1061	HFLC (24)
1088	RUOYIC (50)
1499	TORPET (6)
1467	IBFUL1 (13)
0	IB (1)
3	ICLORT (1)
6	ICLDM1(1)
9	ICLDSW(1)
12	ISAWAY (1)
15	ISKIP (1)
18	IDATIR (1)
650	LWINT (13)
679	IATOTCG(3)
789	LUPALK (270)
1085	WIND (2)
1138	BUOYSH (320)
1465	ITCDS (1)
1480	IGFUL2 (13)
1	IERROB (1)
4	IDATMD1(1)
7	ICLDW2(1)
10	TCCW (1)
13	ITAWAY (1)
16	SPCALC (1)
19	IRTP (1)
653	NAQUIET(13)
672	IATOM (14)
1059	IOAP (12)
1087	TIME (11)
1458	VSFLBY (1)
1466	NTORES (1)
2	ISTSLMO(1)
5	ICATMD2(1)
8	IBITSAP(1)
11	ICSTATE(1)
14	TFC (1)
17	TCALC (1)

MODULE 20

STATISTICS

PROGRAM LENGTH	12738	699
BUFFER LENGTH	60668	3126
COMMON LENGTH	27518	1513

```

C-----CLCS      457
C SUBROUTINE FLAGS CLCS      458
C CLCS      459
C CLCS      460
C ABSTRACT CLCS      461
C THIS ROUTINE RESETS THE VALUES OF THE BUFFER AND DATA AVAILABLE CLCS      462
C FLAGS TO A STATE IN WHICH THE PACKPP ROUTINE MAY BE CALLED. CLCS      463
C CLCS      464
C CODING HISTORY CLCS      465
C CLCS      466
C 1. PROGRAMMED J. WANGES CSC APRIL 11, 1978 CLCS      467
C CLCS      468
C END OF ABSTRACT CLCS      469
C-----CLCS      470
C SUBROUTINE FLAGS CLCS      471
C COMMON/SIMULAY/IRTRBUFF(50,13),LWINRT(13),NMOUTRT(13),IXFFERR(3), CLCS      472
C *IATOTOG(3),IATOM(4),IDADTIP(103),LUPRLK(270),IDAM(2),HELO(24), CLCS      473
C *WIND(2),TIME,BUCYIC(2,25),BUCYRW(10,32),ISFLW, CLCS      474
C *TORPED(3,2),IYORDS,NTORPS,I3FULL(13),IBFUL2(13) CLCS      475
C CLCS      476
C CLCS      477
C CLCS      478
C CLCS      479
C CLCS      480
C CLCS      481
C CLCS      482
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C CLCS      492

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SUBROUTINE FLAGS

SYNOPSIS REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
1 13 32

VARIABLES	SN	TYPE	RELOCATION	REFS
2100 BUOYIC	REAL	ARRAY	SIMULAT	15
2102 BUOYPM	REAL	ARRAY	SIMULAT	15
16 ODC	REAL	MODULE	MODULE	20
2045 HELC	REAL	ARRAY	SIMULAT	15
1222 IATOM	INTEGER	ARRAY	SIMULAT	15
1247 IATOTOG	INTEGER	ARRAY	SIMULAT	15
0 IB	INTEGER	MODULE	MODULE	20
2673 IREFUL1	INTEGER	ARRAY	SIMULAT	15
2710 IREFUL2	INTEGER	ARRAY	SIMULAT	15
10 IRTSMD	INTEGER	MODULE	MODULE	20
12 ICCOM	INTEGER	MODULE	MODULE	20
22 IDATIR	INTEGER	MODULE	MODULE	20
4 IDATW01	INTEGER	MODULE	MODULE	20
5 IDATW02	INTEGER	MODULE	MODULE	20
2043 IDAM	INTEGER	ARRAY	SIMULAT	15
1 IERROR	INTEGER	MODULE	MODULE	20
1256 IODATPP	INTEGER	ARRAY	SIMULAT	15
11 IOLDRSM	INTEGER	MODULE	MODULE	20
6 IOLODM1	INTEGER	MODULE	MODULE	20
7 IOLODM2	INTEGER	MODULE	MODULE	20
3 IOLORT	INTEGER	MODULE	MODULE	20
13 IQSTATE	INTEGER	MODULE	MODULE	20
0 IRTBUFF	INTEGER	MODULE	MODULE	15
2 IRTSMD	INTEGER	ARRAY	SIMULAT	20
23 IRTIR	INTEGER	MODULE	MODULE	20
14 ISAWAY	INTEGER	MODULE	MODULE	20
17 ISKIP	INTEGER	MODULE	MODULE	20
15 ITAWAY	INTEGER	MODULE	MODULE	20
2671 ITORCS	INTEGER	MODULE	MODULE	15
1244 IXPERRR	INTEGER	MODULE	MODULE	15
1425 LUPBLK	INTEGER	MODULE	MODULE	15
1212 LWINT	INTEGER	MODULE	MODULE	15
2672 NTORPS	INTEGER	MODULE	MODULE	15
1227 NHOUIST	INTEGER	MODULE	MODULE	15
20 SBCALC	REAL	MODULE	MODULE	20
21 TCALC	REAL	MODULE	MODULE	20
2077 TIME	REAL	MODULE	MODULE	15
2683 TORPED	REAL	MODULE	MODULE	15
2075 WIND	REAL	MODULE	MODULE	15

MEMBERS - RIAS NAME(LENGTH)
0 IRTBUFF(650)
676 IXPERRR(3)
686 IODATPP(113)
1061 HELC (24)
1088 BUOYIC (50)
1459 TORPED (6)

COMMON BLOCKS LENGTH
SIMULAT 1493

650 LWINT (13)
679 JATOTCG (3)
789 LUPBLK (270)
1085 WIND (2)
1138 RUOYPM (320)
1465 ITORPS (1)
663 NHOUIST(13)
682 TATCM (4)
1059 ICAH (2)
1087 TIME (1)
1458 ISFLEY (1)
1466 NTORPS (1)

31 DEFINED 31

DEFINED 26
DEFINED 27

CNC 6000 SYN V3.0-0390 OPT=1 7/10/12. 15.14.02.

SUB: TIME FLAGS

MEMBERS - BIAS NAME(LENGTH)

COMMON BLOCKS LENGTH

MODULE 20

1467 IRFUL1 (13)
0 IB (1)
3 IOLCPT (1)
6 IOLDDW1 (1)
9 IOLDBSW (1)
12 ISAKAY (1)
15 ISKIP (1)
18 IDATTR (1)

1480 IRFUL2 (17)
1 IEROP (1)
4 IDATW1 (1)
7 IOLDDW2 (1)
10 ICPW (1)
13 ITAMAY (1)
16 SECALC (1)
19 IRITO (1)

2 IOSTAT (1)
5 ICATW2 (1)
8 IBITSWC (1)
11 ICSTATE (1)
14 OCC (1)
17 TCALC (1)

STATISTICS

PROGRAM LENGTH 58 5
COMMON LENGTH 27518 1513

SUBROUTINE PRINT

```

60 CALL BITS(IPTSWD,1)
   CALL BITS(IOWTWD1,2)
   CALL BITS(IOWTWD2,3)
   CALL BITS(IOWTWD4,4)
   CALL BITS(IOWTWD1,5)
   CALL BITS(IOWTWD1,6)
   CALL BITS(IOWTWD2,7)
   CALL BITS(IOWTWD4,8)
   C-----
65 C WRITE OUT BIT BY BIT THE CONTENTS OF THE INPUT BUFFER
   C-----
   WRITE(6,80)
   80 FORMAT(///15X,"***** CONTENTS OF THE INPUT BUFFER *****")
   C DO WHILE I IS LESS THAN FIFTEEN
   DO 100 I=1,15
   CALL BITS(IRIBUFF(I,7),9)
   100 CONTINUE
   C ENDDC
   C-----
75 C WRITE OUT BIT BY BIT THE VALUES OF THE DISCRETE ARRAY
   C-----
   WRITE(6,125)
   125 FORMAT(///17X,"***** VALUES OF DISCRETES *****")
   130 FORMAT(19X,"(IATOTOG(I), I=1,3 AND IATOM(1))")
   DO 150 I=1,3
   CALL BITS(IATOTOG(I),9)
   150 CONTINUE
   CALL BITS(IATOM(1),9)
   C-----
85 C WRITE OUT THE VALUES OF THE BUCYIC ARRAY
   C-----
   WRITE(6,152)
   149 FORMAT(24X,"(INITIAL CHUTE LCACING)")
   152 FORMAT(///19X,"***** VALUES OF THE BUCYIC ARRAY *****")
   153 FORMAT(6,153) (BUOYIC(I),J=1,12)
   154 FORMAT(1X,12F10.4/)
   155 FORMAT(1X,13F10.4/)
   C-----
95 C WRITE OUT THE SONORUCY SPLASH POINTS
   C-----
   WRITE(6,155)
   155 FORMAT(///16X,"***** VALUES OF THE BUOYRM ARRAY *****")
   156 FORMAT(27X,"(SPLASH POINTS)")
   157 FORMAT(6,200) (BUOYRM(I),J=1,12),I=2,3)
   200 FORMAT(1X,12F10.4/)
   220 FORMAT(1X,13F10.4/)
   C-----
105 C WRITE OUT THE SONORUCY WATER ENTRY TIMES
   C-----
   WRITE(6,160)

```

SUBROUTINE PRINT

CNC 6600 FPN VI.0-0140 OPT=1

78/06/12, 15.14.02.

PAGE

```
115 160 FORMAT(///15X,"***** VALUES OF THE BUOYRM A Y *****")
      WRITE(6,161)
161 FORMAT(25X,"(WATER ENTRY TIMES)"/)
      WRITE(6,162) (BUOYRM(I,J),J=1,12)
162 FORMAT(1X,12F10.4/)
      WRITE(6,163) (BUOYRM(I,J),J=13,25)
163 FORMAT(1X,13F10.4/)
C-----
C      WRITE OUT THE VALUE OF THE SELECTED BUOY
C-----
      WRITE(6,300) ISELBY
300 FORMAT(//1X,"CHUTE NUMBER OF THE SELECTED BUOY IS ",I4)
C-----
C      WRITE OUT THE VALUE OF THE BIT COUNTER
C-----
      WRITE(6,350) NCCOUNT
350 FORMAT(//1X,"BIT COUNTER = ",I4)
C-----
C      WRITE OUT THE TORPEDO AWAY SIGNAL COUNTERS
C-----
      WRITE(6,400) ISAWAY,ITAWAY
400 FORMAT(//1X,"SONOBUOY AWAY SIGNAL COUNTER = ",I4,4X,"TORPEDO ",
      *"AWAY SIGNAL COUNTER = ",I4//)
C-----
C      WRITE OUT THE BUFFER POINTERS
C-----
      WRITE(6,440) LWINPT(7),NRCUTRT(7)
440 FORMAT(1X,"LWINPT(7)=",I4,4X,"NRCUTRT(7)=",I4)
C-----
C      WRITE OUT THE ERROR WORDS
C-----
      WRITE(6,500)
500 FORMAT(///26X,"*** ERROR WORDS ***")
C      DO WHILE I IS LESS THAN THREE
      DO 550 I=1,3
      CALL BITS(IXFRERR(I),9)
550 CONTINUE
C      ENDDO
      RETURN
      END
```

584 CLCS
585 CLCS
586 CLCS
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619 CLCS
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621 CLCS
622 CLCS
623 CLCS

FILE NAMES	TAPE6	MODE	FMT	NOTES	27	29	31	35	37	39	41	43
				45	47	49	54	67	77	79	89	89
				92	94	98	101	103	105	110	112	114
				116	121	126	131	137	142			

EXTERNALS	TYPE	ARGS	REFERENCES	57	58	59	60	61	62	63	71
RTS	2		56	57	58	59	60	61	62	63	71
READBIT	3		92	84	146						
			33	34							

STATEMENT LABELS

STATEMENT LABELS	INDEX	FROM-TO	LENGTH	PROPERTIES
404 20 FMT	* I	70 72	68	EXT REFS
410 25 FMT	* I	81 83	69	EXT REFS
414 27 FMT	* J	92	68	EXT REFS
420 30 FMT	* J	94	68	EXT REFS
424 35 FMT	* J	103	128	EXT REFS
430 40 FMT	* I	103	78	EXT REFS
436 45 FMT	* J	103	78	EXT REFS
444 47 FMT	* J	103	78	EXT REFS
450 48 FMT	* J	103	78	EXT REFS
455 49 FMT	* J	103	78	EXT REFS
462 50 FMT	* J	103	78	EXT REFS
467 60 FMT	* J	103	78	EXT REFS
475 80 FMT	* J	103	78	EXT REFS
0 100 FMT	* J	103	78	EXT REFS
504 125 FMT	* J	103	78	EXT REFS
512 130 FMT	* J	103	78	EXT REFS
520 149 FMT	* J	103	78	EXT REFS
0 150 FMT	* J	103	78	EXT REFS
525 152 FMT	* J	103	78	EXT REFS
533 153 FMT	* J	103	78	EXT REFS
536 154 FMT	* J	103	78	EXT REFS
541 155 FMT	* J	103	78	EXT REFS
547 156 FMT	* J	103	78	EXT REFS
561 160 FMT	* J	103	78	EXT REFS
567 161 FMT	* J	103	78	EXT REFS
573 162 FMT	* J	103	78	EXT REFS
576 163 FMT	* J	103	78	EXT REFS
583 200 FMT	* J	103	78	EXT REFS
586 220 FMT	* J	103	78	EXT REFS
601 300 FMT	* J	103	78	EXT REFS
607 350 FMT	* J	103	78	EXT REFS
613 400 FMT	* J	103	78	EXT REFS
624 440 FMT	* J	103	78	EXT REFS
31 500 FMT	* J	103	78	EXT REFS
0 550 FMT	* J	103	78	EXT REFS

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
122	100	* I	70 72	68	EXT REFS
137	150	* I	81 83	69	EXT REFS
157	157	* J	92	68	EXT REFS
171	171	* J	94	68	EXT REFS
211	211	* I	103	128	EXT REFS
212	212	* J	103	78	EXT REFS

NOT INNER

COC 6600 FTN V3.0-P180 CRT=1 7*/06/12. 15.14.02.

INDEX	FROM-TO	LENGTH	PROPERTIES	EXT REFS	NOT INNEP
109	128				
109	78				
114	48				
116	48				
145	147				

COMMON BLOCKS	LENGTH
SIMULAT	1493

MEMBERS - BIAS NAME(LENGTH)

0	IRTBUFF(650)
676	IXREFSR(7)
686	IOACTRP(103)
1061	HELC (24)
1088	BUOYIC (50)
1459	TOPPED (6)
1467	IBFUL1 (13)
0	IB (1)
3	IOLCRY (1)
6	IOLDOA1 (1)
9	IOLC3SW(1)
12	ISAWAY (1)
15	ISKIP (1)
18	IDATIR (1)
0	NCOUNT(1)

MODULE 20

DRIVER 1

STATISTICS

PROGRAM LENGTH	6528	426
COMMON LENGTH	27528	1514

663	NCOUTPR(13)
682	IATCW (4)
1059	ICAK (2)
1097	TINE (1)
1458	ISELAY (1)
1466	NTOPPS (1)
2	IRYSTAD(1)
5	ICATWC2(1)
8	IBTSCW(1)
11	ICSTATE(1)
14	TC (1)
17	TCALC (1)

663	LWINDT (13)
679	IATOTOG(1)
789	LUPBLK (1270)
1095	WIND (2)
1138	BUOYPR (320)
1465	ITOPDS (1)
1480	IPFUL2 (13)
1	ICRPR (1)
4	IDATWD1(1)
7	ICLODW2(1)
10	ICCDW (1)
13	ITAWAY (1)
16	SRCALC (1)
19	IRYTR (1)

```

5      C-----
      C SUBROUTINE BITS(JVALUE,NUM)
      C
      C ARSTRACT
      C   THIS SUBROUTINE PRINTS OUT BIT BY BIT THE FIRST 16 BITS
      C   OF THE WORD JVALUE.
      C CODING HISTORY
      C 1. PROGRAMMED J. MANGES CSC 12/28/77
      C END OF ARSTRACT
      C-----
10     C SUBROUTINE BITS(JVALUE,NUM)
      C INTEGER BIT(17)
      C DIMENSION FMT(4,10)
      C DATA FMT(1,1)/30H(10X)," BIT STATUS WORD ","16I2)/
      C DATA FMT(1,2)/27H(13X)," DATA WORD 1 ","16I2)/
      C DATA FMT(1,3)/27H(13X)," DATA WORD 2 ","16I2)/
      C DATA FMT(1,4)/30H(9X)," BIT STATUS WORD ","16I2)/
      C DATA FMT(1,5)/30H(1X)," ORIGINAL BIT STATUS WORD ","16I2)/
      C DATA FMT(1,6)/35H(4X)," ORIGINAL DATA WORD 1 ","16I2)/
      C DATA FMT(1,7)/35H(4X)," ORIGINAL DATA WORD 2 ","16I2)/
      C DATA FMT(1,8)/30H(1X)," ORIGINAL BIT STATUS WORD ","16I2)/
      C DATA FMT(1,9)/9H(1X,16I2)/
      C DO WHILE I IS LESS THAN 16
      C DO 100 I=1,16
      C   J=I-1
      C   CALL READBIT(JVALUE,J,BIT(I))
      C   CC CONTINUE
      C   ENDOF
      C 100 CONTINUE
      C ENDDO
      C WRITE OUT THE VALUES OF THE BIT ARRAY
      C WRITE(6,FMT(1,NUM)) (BIT(17-I),I=1,16)
      C RETURN
      C END

```

```

      CLCS 624
      CLCS 625
      CLCS 626
      CLCS 627
      CLCS 628
      CLCS 629
      CLCS 630
      CLCS 631
      CLCS 632
      CLCS 633
      CLCS 634
      CLCS 635
      CLCS 636
      CLCS 637
      CLCS 638
      CLCS 639
      CLCS 640
      CLCS 641
      CLCS 642
      CLCS 643
      CLCS 644
      CLCS 645
      CLCS 646
      CLCS 647
      CLCS 648
      CLCS 649
      CLCS 650
      CLCS 651
      CLCS 652
      CLCS 653
      CLCS 654
      CLCS 655
      CLCS 656
      CLCS 657

```

SUBROUTINE BYTS

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES	
2 BITS	11	33	
VARIABLES	SN	TYPE	RELOCATION
52 BIT		INTEGER	ARRAY
73 FMT		REAL	AFRAY
50 I		INTEGER	
51 J		INTEGER	
0 JVALUE		INTEGER	F.P.
0 NUM		INTEGER	F.P.

FILE NAMES	MODE	WRITES	32
TAPE6	FMT		

EXTERNALS	TYPE	ARGS	REFERENCES
READBIT		3	26

STATEMENT LABELS	DEF LINE	REFERENCES
0 50	27	
0 100	29	24

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
15	100	* I	24 29	78	EXT REFS
30		* I	32	68	EXT REFS

STATISTICS	PROGRAM LENGTH	1478	103
------------	----------------	------	-----

12	26	32	14	15	16	17
13	32	DEFINED	22			
19	20	21	DEFINED	24	32	
25	26	32	25			
26	DEFINED	25				
26	DEFINED	11				
32	DEFINED	11				


```

15  IF(IRIBUFF(IR,7).NE.144241B) GO TO 20
    THEN
    SET THE CONTROL COMMAND DATA WORD
    ICCOM=IRIBUFF(IR,1,7)
    PROCESS THE CONTROL COMMAND DATA WORDS
    CALL CONTROL
    GO TO 60
    ELSE
65  CHECK FOR INITIALIZE TERMINAL
    IF IRIBUFF(IR,7) EQUALS 144001B
    IF(IRIBUFF(IR,7).NE.144001B) GO TO 25
    THEN
    OVERRIDE BIT IF ON
    ACCNTR=0
    RESET STATUS AND DATA SENT FLAGS
    ICFUL1(7)=0
    ICFUL2(7)=0
    SET PP AND RT DATA AVPL BITS EQUAL
    IDAM(1)=IDAM(1).OR.130B
    IDAM(2)=IDAM(2).OR.100B
    SET RECEIVE BUSY FLAG TO 0
    CALL SETARIT(IPTSTMC,9,0)
    SET QUIESCENT STATE FLAG
    ICSTATE=1
    GO TO 85
    ELSE
85  CHECK FOR INITIATE PROCESSING
    IF IRIBUFF(IR,7) EQUALS 144004B
    IF (IRIBUFF(IR,7).NE.144004B) GO TO 30
    THEN
    RESET QUIESCENT STATE FLAG
    ICSTATE=0
    SET FLAG TO TRANSMIT DATA WORDS
    IDATTF=1
    GO TO 80
    ELSE
95  CHECK FOR INITIATE RT SELF TEST
    IF IRIBUFF(IR,7) EQUALS 144003B
    IF(IRIBUFF(IR,7).NE.144003B) GO TO 45
    THEN
    INITIALIZE COUNTER FOR BIT
    ACCNTR=IRITCF
    SET RECEIVE BUSY BIT IN RT STATUS WORD
    CALL SETARIT(IPTSTMD,9,1)
    SET FLAG TO TRANSMIT RT STATUS WORD
    IRTTS=1
    GO TO 60
    ELSE
110  -----

```

```

CLCS 704
CLCS 705
CLCS 706
CLCS 707
CLCS 708
CLCS 709
CLCS 710
CLCS 711
CLCS 712
CLCS 713
CLCS 714
CLCS 715
CLCS 716
CLCS 717
CLCS 718
CLCS 719
CLCS 720
CLCS 721
CLCS 722
CLCS 723
CLCS 724
CLCS 725
CLCS 726
CLCS 727
CLCS 728
CLCS 729
CLCS 730
CLCS 731
CLCS 732
CLCS 733
CLCS 734
CLCS 735
CLCS 736
CLCS 737
CLCS 738
CLCS 739
CLCS 740
CLCS 741
CLCS 742
CLCS 743
CLCS 744
CLCS 745
CLCS 746
CLCS 747
CLCS 748
CLCS 749
CLCS 750
CLCS 751
CLCS 752
CLCS 753
CLCS 754
CLCS 755
CLCS 756
CLCS 757
CLCS 758

```

```

115 C-----
C CHECK FOR INVALID OLCS WORD
C-----
C SET ERROR FLAG IF IRTBUFF(18,7) IS 0
C IDENTICALLY ZERO OR IS A CONTROL CHARACTER
C DATA WORD
C IF IRTBUFF(18,7) NOT EQUAL TO ZERO
C IF (IRTBUFF(18,7).EQ.0).GO.
C (IRTBUFF(18-1,7).EQ.1442418))
C GO TO 50
C THEN
C SET ERROR FLAG
C IERFOR=1
C GO TO 50
C ELSE
C IRTBUFF(18,7) IS ZERO
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C CONTINUE
C ENDIF
C INCREMENT POINTER AND ZERO OUT THE BUFFER WORD JUST READ
C-----
C IRTBUFF(18,7)=0
C IB=IB+1
C-----
C CHECK FOR BUFFER WRAP AROUND
C-----
C IF IB IS GREATER THAN NUMWDS
C IF (IB.LE.NUMWDS) GO TO 100
C THEN
C RESET POINTER POSITION
C IB=1
C GO TO 100
C ELSE
C CHECK FOR EOF
C CONTINUE
C ENDIF
C CHECK FOR EOF IN BUFFER
C-----
C IF IB EQUALS 100
C IF (IB.EQ.100) GO TO 105
C THEN
C RESET NUMWDS(7)
C NUMWDS(7)=IB-1
C BUFFER PROCESSING IS COMPLETED
C JUMP TO THE BIT PROCESSING SECTION
C-----

```

759 OLCS
 760 OLCS
 761 OLCS
 762 OLCS
 763 OLCS
 764 OLCS
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 768 OLCS
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 770 OLCS
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 805 OLCS
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 807 OLCS
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 809 OLCS
 810 OLCS
 811 OLCS
 812 OLCS
 813 OLCS

```
170      C      GO TO 130
      C      ELSE
      C      CONTINUE TO LOOK AT INPUT BUFFER
      C      GO TO 10
      C      CONTINUE
      C      ENDIF
      C      ELSE
      C      NOTHING IN INPUT BUFFER SO SKIP INPUT PROCESSING THIS CYCLE
      C      CONTINUE
      C      ENDIF
175      C      DO BIT COUNTER PROCESSING
      C      IF BIT IS IN PROGRESS
      C      130 IF(NCOUNTER.EQ.0) GO TO 185
      C      THEN
      C      DECREASE THE BIT COUNTER BY ONE
      C      NCOUNTER=NCOUNTER-1
      C      CHECK FOR END OF BIT
      C      IF NCOUNTER IS EQUAL TO ZERO
      C      IF(NCOUNTER.NE.0) GO TO 180
      C      THEN
      C      BIT HAS ENDED SO SET RECEIVE BUSY BIT TO 0
      C      CALL SETBIT(IQSTATE,9,0)
      C      SET FLAG TO TRANSMIT DATA WORDS
      C      IDATYR=1
      C      GO TO 180
      C      ELSE
      C      BIT IS ON SO CONTINUE
      C      CONTINUE
      C      ENDIF
      C      ELSE
      C      CONTINUE ON AS BIT IS NOT IN PROGRESS
      C      185 CONTINUE
      C      ENDIF
      C      CHECK FOR QUIESCENT STATE
      C      IF OLC5 NOT IN A QUIESCENT
      C      IF(IQSTATE.EQ.1) GO TO 360
      C      THEN
      C      CHECK FOR BIT SELF TEST IN PROGRESS
      C      IF BIT IS NOT ON OR HAS ONLY JUST BEGUN
      C      IF((NCOUNTER.NE.0).AND.(ACOUNTER.NE.(IRITCTR-1))) GO TO 355
      C      THEN
      C      UPDATE ANY MANUAL INEUTS FROM THE OASP
      C      CALL UOASP
      C      DO SONOBLOY AND TORPEDO AWAY SIGNAL PROCESSING
220      C      OLC5
```



```
225 C-----
C     CALL WDOH
C-----
C     CHECK TO SEE IF NECESSARY TO MAKE SPLASH OF WET CALCULATI
C-----
C     IF SPALC NOT EQUAL TO 7590
C     IF (SPALC.EQ.0.) GO TO 225
C     THEN
C-----
C     MAKE SPLASH POINT CALCULATIONS FOR SONOBUCYS
C-----
C     CALL SPLASH
C-----
C     MAKE WATER ENTRY TIME CALCULATIONS FOR SONOBUCYS
C-----
C-----
C     CALL WET
C     RESET CALCULATION-NECESSARY INDICATOR
C     SPALC=0.
C     GO TO 225
C-----
C     ELSE
C     NO CALCULATION NECESSARY SO CONTINUE
C-----
C     CONTINUE
C     ENDIF
C-----
C     CHECK TO SEE IF NECESSARY TO MAKE TSPLASH OR WRP CALCULA
C-----
C     IF ICALC EQUALS ONE
C     IF (ICALC.EQ.5.) GO TO 240
C     THEN
C-----
C     MAKE WATER ENTRY TIME CLACULATION FOR TORPEDOS
C-----
C-----
C     CALL TWET
C-----
C     MAKE SPLASH POINT CALCULATION FOR TORPEDO
C-----
C-----
C     CALL TSPLASH
C     RESET CALCULATION NECESSARY INDICATOR
C     ICALC=0.
C     GO TO 240
C-----
C     ELSE
C     NO TORPEDO CALCULATIONS NECESSARY
C-----
C     CONTINUE
C     ENDIF
C-----
C     CHECK TO SEE IF FP DATA AVBL FLAG AND DATA AVAILABLE FLA
C     ARE EQUAL
C-----
C-----
C     CALL READRT(1DAM(1),IT,1DATABD)
C     CALL READRT(1DAM(2),IT,1DATABD)
C     IF 1DATABD IS EQUAL TO 1DATABD
C     IF (1DATABD.NE.1DATABD) GO TO 248
C     THEN
C-----
C     INITIALIZE WORD COUNTER TO ONE
C     NPPHOS=1
C-----
```



```

335      C-----
      C      FNDIF
      C      CHECK TO SEE IF INPUT ARRAY IS NON-EMPTY OR IF
      C      STATUS HAS CHANGED
      C-----
      C      IF NPPWDS IS GREATER THAN ONE OR IF STATUS WORD
      C      HAS CHANGED OR TRANSMIT RT STATUS FLAG IS UP
      C      IF(NPPWDS.LE.1).AND.(IRSTWD.EQ.IOLDRT).AND.
      C      (IPTR.EC.0) GO TO 345
      C      THEN
340      C-----
      C      PACK THE NEW WORDS
      C-----
      C      CALCULATE NPPWDCY THE PP WORD COUNT
      C      NPPWDS=NPPWDCY
      C      NPPWDCY=(NPPWDS/2.5)+1.0
      C      CALCULATE NBYTE- THE BYTE COUNT
      C      NBYTE=2*NPPWDS
      C      ZERO OUT TOADTPP(103)
      C      ICADTFP(103)=0
      C      PUT THE PP WORD COUNT ONTO THE FIRST BYTE
      C      ICADTFP(103)=CR(TOADTPP(103),NPPWDCY)
      C      PUT THE BYTE COUNT ONTO THE SECOND BYTE 0
      C      ICADTFP(103)=OR(ICADTFP(103),SHIFT(NBYTE,
350      C      12))
      C      PACK THE RT STATUS WORD
      C      LUPBLK(24)=IRSTWD
      C      CALL THE PACKING ROUTINE
      C      CALL PACKPP(7,NPPWDS)
      C      ZERO OUT THE DATA WORD COUNT
      C      IRSTWD=AND(IRSTWD,1777013)
      C      ZERO OUT THE 1/2 BIT IN THE RT STATUS WORD
      C      CALL SETART(IRSTWD,0,0)
      C      RESET THE VALUE OF IOLDRT
      C      IOLDRT=IRSTWD
      C      RESET THE VALUE OF IOLDPSW
      C      IOLDPSW=IRSTWD
      C      SET TRANSMT RT STATUS WORD FLAG TO ZERO
      C      IRTYF=0
360      C-----
      C      RESET THE DATA AVAILABLE FLAG
      C-----
      C      CALL SETART(104K(1),17,AND(COMPL(ICADTAVR
370      C      ),13))
      C-----
      C      SET THE STATUS SFMT FLAG
      C-----
      C      IRFUL(7)=1
      C      FLSF
380      C      NO CHANGES IN RT WORDS SINCE LAST OLCS CA
      C      CONTINUE
      C      FNDIF
      C      GO TO 345
      C      ELSE
385      C      OUTPUT BUFFER FULL FLAGS ARE STILL UP
      C-----

```

OLCS 979
 OLCS 980
 OLCS 981
 OLCS 982
 OLCS 983
 OLCS 984
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 OLCS 986
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 OLCS 990
 OLCS 991
 OLCS 992
 OLCS 993
 OLCS 994
 OLCS 995
 OLCS 996
 OLCS 997
 OLCS 998
 OLCS 999
 OLCS 1000
 OLCS 1001
 OLCS 1002
 OLCS 1003
 OLCS 1004
 OLCS 1005
 OLCS 1006
 OLCS 1007
 OLCS 1008
 OLCS 1009
 OLCS 1010
 OLCS 1011
 OLCS 1012
 OLCS 1013
 OLCS 1014
 OLCS 1015
 OLCS 1016
 OLCS 1017
 OLCS 1018
 OLCS 1019
 OLCS 1020
 OLCS 1021
 OLCS 1022
 OLCS 1023
 OLCS 1024
 OLCS 1025
 OLCS 1026
 OLCS 1027
 OLCS 1028
 OLCS 1029
 OLCS 1030
 OLCS 1031
 OLCS 1032
 OLCS 1033

```

1032      "OP" THE VALUES OF STAT0 SENT AND DATA SENT      OLC0
1035      FLAGS ONTO THE APPROPRIATE FORCE WORD BITS      OLC0
1036      IXPERFR(2)=OR(IXPERFR(2),SHIFT(1BFUL(7),II-1))      OLC0
1037      CLCS      OLC0
1038      IXPERFR(3)=OP(IXPERFR(3),SHIFT(1BFUL(2(7),II-1))      OLC0
1039      CLCS      OLC0
1040      CONTINUE      OLC0
1041      ENDF      OLC0
1042      GO TO 350      OLC0
1043      FALSE      OLC0
1044      FLAGS ARE NOT EQUAL SO DON'T PACK DATA      OLC0
1045      SET BIT IN ERROR WORD      OLC0
1046      CALL SETBIT(IXPERFR(1),II-1,1)      OLC0
1047      CONTINUE      OLC0
1048      ENDF      OLC0
1049      ELSE      OLC0
1050      RIT IS STILL IN PROGRESS SO RETURN      OLC0
1051      CONTINUE      OLC0
1052      ENDF      OLC0
1053      ELSE      OLC0
1054      OLC0 IN A QUIESCENT STATE SO RETURN      OLC0
1055      CONTINUE      OLC0
1056      ENDF      OLC0
1057      RETURN      OLC0
1058      END      OLC0

```


SYMBOLIC REFERENCE MAP

ENTRY POINTS OFF LINE REFERENCES

1 OLOS 11

409

VARIABLES SN TYPE RELOCATION

2100 BUOYIC REAL SIMULAT

2162 BUOYPM REAL SIMULAT

16 DDC REAL MODULE

2045 HELO REAL SIMULAT

1252 IATOM INTEGER SIMULAT

1247 IATOTOG INTEGER SIMULAT

0 IR INTEGER MODULE

2673 IBFUL1 INTEGER SIMULAT

2710 IBFUL2 INTEGER SIMULAT

332 IBITCTR INTEGER MODULE

10 IBITSWO INTEGER MODULE

12 ICCOM INTEGER MODULE

344 IDATAVB INTEGER MODULE

22 IDATVR INTEGER MODULE

4 IDATW01 INTEGER MODULE

5 IDATW02 INTEGER MODULE

2043 IDAM INTEGER SIMULAT

1 IERROR INTEGER MODULE

343 IF INTEGER MODULE

1256 IODATPP INTEGER SIMULAT

11 IOLDASH INTEGER MODULE

6 IOLDOW1 INTEGER MODULE

7 IOLDOW2 INTEGER MODULE

3 IOLDRT INTEGER MODULE

345 IPPDATA INTEGER MODULE

13 IQSTATE INTEGER MODULE

0 IRTBUFF INTEGER SIMULAT

2 IRISTWO INTEGER MODULE

23 IQTR INTEGER MODULE

14 ISAWAY INTEGER MODULE

2662 ISSLBY INTEGER SIMULAT

17 ISKIP INTEGER MODULE

334 IT INTEGER MODULE

15 ITAWAY INTEGER MODULE

2671 ITORDS INTEGER SIMULAT

347 IUPS INTEGER MODULE

1244 IXFRPP INTEGER SIMULAT

1425 LUPALK INTEGER SIMULAT

1212 LMINRT INTEGER SIMULAT

352 NBYTE INTEGER DRIVER

0 NCOUNTP INTEGER DRIVER

DEFS

DEFS

DEFS

DEFS

DEFS

DEFS

DEFS

DEFS

DEFS

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STATEMENT LABELS

DEF LINE	REFERENCES
263	244
264	244
265	244
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360	244

COMMON BLOCKS LENGTH 1493

MEMBERS - RIAS NAME(LENGTH)
0 IRTUFF(650)
676 IXPERR(3)
686 INACTFP(133)
1061 HELC(24)
1088 BUOYIC(50)
1459 TORPEC(6)
1467 INFUL1(13)
0 IQ(1)
3 IOLCOT(1)
6 IOLCOT(1)
9 IOLCOT(1)
12 ISAWAY(1)
15 ISKIP(1)
18 INATIR(1)
0 NCOUNT(1)

STATISTICS

PROGRAM LENGTH	3538
COMMON LENGTH	27528
COMMON LENGTH	1514

650 LWINST(12)	663 NACUOT(13)
679 IATNCG(3)	882 IATCM(14)
789 LUPALK(270)	1059 ICAM(12)
1065 WIND(2)	1087 TIME(1)
1138 RUOYRW(320)	1458 ISELBY(1)
1465 ITOPDS(1)	1466 NTORPS(1)
1480 ICFUL2(13)	2 IRTSIND(1)
1 IEPPOS(1)	5 ICATW2(1)
4 INATW1(1)	8 IRTSHO(1)
7 ICLDOL2(1)	11 TCSTATE(1)
10 ICCOW(1)	14 DEC(1)
13 ITAWAY(1)	17 TCALC(1)
16 SBCALC(1)	
19 IRTIR(1)	

AD-A059 756

COMPUTER SCIENCES CORP HUNTINGDON VALLEY PA
LAMPS SEAS SIMULATION SOFTWARE SUPPORT. APPENDIX 1.(U)
JUN 78

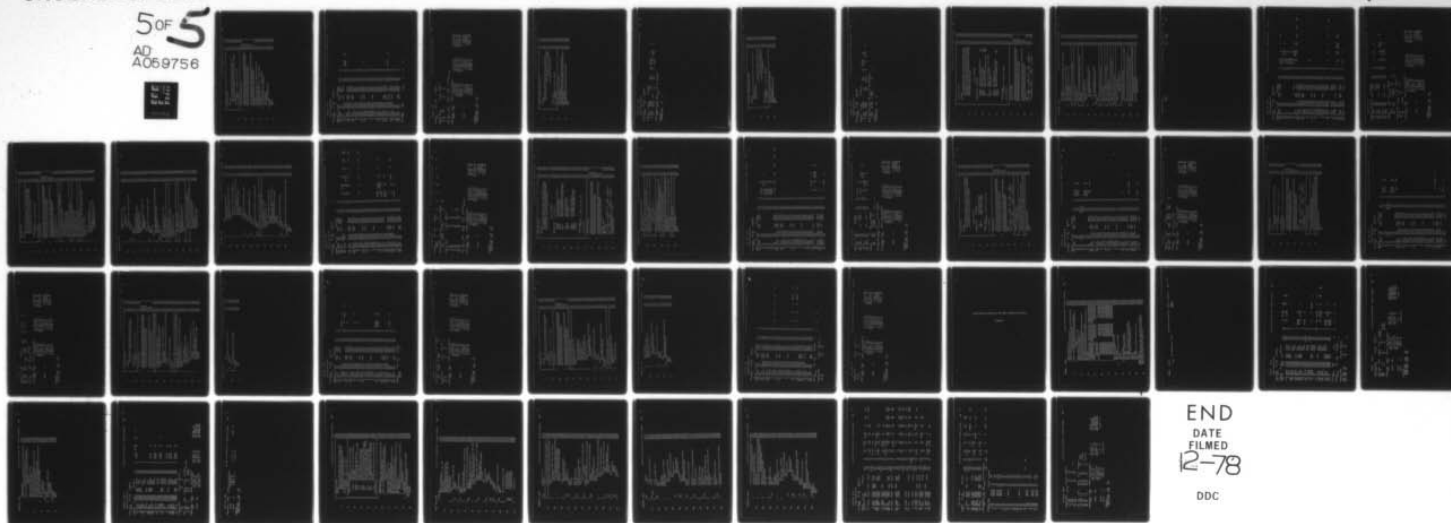
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CNC 660: FYN V3.0-PIPO OPT=1 7/10/12. 15.14.02.

```

C-----
C SUBROUTINE PACKPP
C
C ARSTACT
C PACKPP WRITES OUT THE HEADER WORD IN THE OUTPUT ARRAY
C AND THE NON-ZERO CONTENTS OF THE INPUT ARRAY.
C THIS IS A DUMMY SUBROUTINE FOR THE ACTUAL PACKPP ROUTINE.
C COING HISTORY
C 1. PROGRAMMED J. MANGES CSC DEC 1977
C END OF ARSTACT
C-----
C SUBROUTINE PACKPP(NRI,NPPWDS)
C
C COMMON/SIMULAT/IRTAUFF(50,13),LWINT(13),MWOUTPT(13),IXFREPR(3),
C *IATOTOG(3),IATOM(4),IADOTPP(10),LUPBLK(270),IDAM(2),HELO(24),
C *WIND(2),TIME,BUOYIC(2,25),RUCYRM(10,32),ISELBY,
C *TORPED(3,2),IYORDS,NIOBPS,IBFUL1(13),IRFUL2(13)
C
C COMMON/MODULE/IB,IERROR,IRISTWC,IOLDP1,IDA*WD1,IDA*WD2,ICLDWM1,
C *IOLDEM2,IRITSWD,IOLDSH,ICODM,IQSTATE,ISAWAY,
C *ITAWAY,ODC,ISKIP,SBCALC,ICALC,IOATTP,IFITC
C WRITE(6,5)
C 5 FORMAT(//2X,"***** RESULTS OF PACKPP CALL *****//")
C WRITE(6,10) IOATTP(10)
C 10 FORMAT(2X,"HEADER WORD IN OUTPUT ARRAY",2X,OE//)
C WRITE(6,20)
C 20 FORMAT(2X,"CONTENTS OF THE INPUT ARRAY")
C DO WHILE I IS LESS THAN NPPWDS+240
C IALL=NPPWDS+240
C DO 30 I=241,IALL
C CALL RITS(LUPELK(I),9)
C 30 CONTINUE
C ENDDO
C RETURN
C END

```

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 1060 CLCS 1060
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 1062 CLCS 1062
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 1064 CLCS 1064
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 1066 CLCS 1066
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 1069 CLCS 1069
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 1072 CLCS 1072
 1073 CLCS 1073
 1074 CLCS 1074
 1075 CLCS 1075
 1076 CLCS 1076
 1077 CLCS 1077
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 1079 CLCS 1079
 1080 CLCS 1080
 1081 CLCS 1081
 1082 CLCS 1082
 1083 CLCS 1083
 1084 CLCS 1084
 1085 CLCS 1085
 1086 CLCS 1086

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES

2 PACKPP 12 34

VARIABLES SN TYPE RELOCATION

2100 BUOYIC REAL APARRAY SIMULAT

2162 BUOYRW REAL APARRAY SIMULAT

16 DCC REAL APARRAY MODULE

2045 HELO REAL APARRAY SIMULAT

56 I INTEGER 31

55 IALL INTEGER 30

1252 IATOM INTEGER 14

1247 IATOTOG INTEGER 14

0 IB INTEGER 19

2673 IBFUL1 INTEGER 14

2710 IBFUL2 INTEGER 14

10 IBTSMO INTEGER 19

12 ICCON INTEGER 19

22 IDATIR INTEGER 19

4 IDATND1 INTEGER 19

5 IDATND2 INTEGER 19

2043 IDAN INTEGER 14

1 IEROP INTEGER 19

1256 IODTTPP INTEGER 14

11 IOLOBSM INTEGER 19

6 IOLODM1 INTEGER 19

7 IOLODM2 INTEGER 19

3 IOLOST INTEGER 19

13 IQSTATE INTEGER 19

0 IRTAUFF INTEGER 14

2 IRTSTD INTEGER 19

23 IRTTR INTEGER 19

14 ISAWAY INTEGER 19

2662 ISELBY INTEGER 14

17 ISKIP INTEGER 19

15 ITAWAY INTEGER 19

2671 ITORDS INTEGER 14

1244 IXPERR INTEGER 14

1425 LUPALK INTEGER 14

1212 LWINRT INTEGER 14

0 NPMXDS INTEGER 29

0 NRT INTEGER 12

2672 NTORPS INTEGER 14

1227 NMOUPTP INTEGER 14

20 SRGALC REAL 19

21 TCALC REAL 19

2077 TIME REAL 14

2663 TOPPED REAL 14

2075 WIND REAL 14

FILE NAMES MODE

TAPE6

FMT

WRITES

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EXTERNALS
BITS

TYPE ARGS REFERENCES
2 31

STATEMENT LABELS
DEF LINE REFERENCES

34 5 FMT
42 10 FMT
47 20 FMT
D 30

23 22
25 24
27 26
32 30

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES EXT REFS
22 30 * I 30 32 60

COMMON BLOCKS LENGTH
SIMULAT 1493

MEMBERS - RIAS NAME(LENGTH)

0 IRTBUFF(1650)

676 IREFERR(3)

686 IOACTFP(1103)

1061 HELC (24)

1068 BUOYIC (50)

1459 TORPED (6)

1467 IRFUL1 (17)

0 IR (1)

3 IOLCPT (1)

6 IOLCDA1(1)

9 IOLC8SW(1)

12 ISAWAY (1)

15 ISKIP (1)

18 IDATTY (1)

MODULE 20

663 NKOLIST(13)

682 IATCH (4)

1059 ICAW (2)

1087 TIME (1)

1458 TSFLBY (1)

1466 NTOPPS (1)

2 IRISTAD(1)

5 ICATW2(1)

8 IRTSMC(1)

11 IOSTATE(1)

14 DDC (1)

17 YCALC (1)

STATISTICS

PROGRAM LENGTH 578 47
COMMON LENGTH 27518 1513

```

C-----
C SUBROUTINE SETBIT(JWORD,NBIT,NUM)
C-----
C
C ABSTRACT
C SETBIT SETS A SPECIFIED BIT TO 0 OR 1 IN A GIVEN WORD
C CALLING PARAMETERS- 1. JWORD- WORD IN WHICH BIT IS TO BE SET
C 2. NBIT- BIT NUMBER OF BIT TO BE RESET
C (THE FIRST BIT IN WORD IS BIT 0)
C 3. NUM THE RESET VALUE OF THE BIT
C
C CODING HISTORY
C -1. PROGRAMMED J. MANGES 12/19/77
C END OF ABSTRACT
C-----
C SUBROUTINE SETBIT(JWORD,NBIT,NUM)
C DIMENSION NMASK(16)
C DATA NMASK/1777768,1777758,1777738,1777678,1777579,1777378,
C *1776778,1775778,1773778,1767778,1757778,1747778,1677778,1577778,
C *1377778,0777778/
C JWORD=(JWORD.AND.NMASK(NBIT*1)).OR.SHIFT(NUM,NBIT)
C RETURN
C END

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SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
2 SETABIT 15 21

VARIABLES SN TYPE RELOCATION
C JWORD INTEGER F.P.
0 NBIT INTEGER F.P.
11 NMASK INTEGER ARRAY
0 NUM INTEGER F.P.

OFFS 20 DEFINED 15 20
REFS 2*20 DEFINED 15
OFFS 16 DEFINED 17
OFFS 20 DEFINED 15

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES
SHIFT NO TYPE 2 INTRIN 20

STATISTICS

PROGRAM LENGTH 318 25

```

C-----
C SUBROUTINE READBIT(J,WORD,NBIT,NEWWORD)
C
C
C ABSTRACT
C READBIT EXTRACTS AND RIGHT JUSTIFIES A GIVEN BIT WITHIN A
C GIVEN WORD
C CALLING PARAMETERS-
C
C      1. JWCROD= WORD CONTAINING BIT TO BE READ
C      2. NBIT= NUMBER OF BIT TO BE READ
C             (THE FIRST BIT IN WORD IS BIT 0)
C      3. NEWWORD= RIGHT JUSTIFIED RETURN VALUE
C                OF THE GIVEN BIT
C
C CODING HISTORY
C      1. PROGRAMMED J. MANGES CSC 12/19/77
C      ENI CF ABSTRACT
C
C-----
C SUBROUTINE READBIT(J,WORD,NBIT,NEWWORD)
C J=SHIFT(18,NBIT)
C NEWWORD=SHIFT(AND(J,JWCROD),-NBIT)
C RETURN
C END

```

SUBROUTINE READBIT

SYMBOLIC REFERENCE MAP

CDC 6600 FTA V3.0-P340 CPI=1 7/10/6/12. 15.14.02.

PAGE

2

ENTRY POINTS DEF LINE REFERENCES
2 READBIT 17 20

VARIABLES SN TYPE DELOCATION
12 J INTEGER
0 JWORD INTEGER F.P.
0 NBIT INTEGER F.P.
0 NEWARD INTEGER F.P.

REFS 19 DEFINED 18
REFS 19 DEFINED 17
REFS 18 DEFINED 17
DEFINED 19 19

INLINE FUNCTIONS TYPE ARGS DEF LINE REFERENCES
AND NO TYPE 2 INTRIN 19
SHIFT NO TYPE 2 INTRIN 18

STATISTICS
PROGRAM LENGTH 138 11

SUBROUTINE SPLASH

ABSTRACT

THIS SUBROUTINE CALCULATES SONOBUOY SPLASH POINTS FOR THE
OLCS SUBROUTINE. EQUATIONS USED IN THIS ROUTINE ARE TAKEN
FROM APPENDIX E OF THE PROGRAM PERFORMANCE SPECIFICATION
FOR LAMPS MK III AVIONICS OPERATIONAL PROGRAM. SPLASH ALSO
RESETS VALUES IN THE CHUTE APRAY AND PITS IN THE OLCS DATA
WORDS AFTER A SONOBUOY LAUNCH.

TABLE OF VARIABLES

VARIABLE NAME DESCRIPTION

HELO(21) TRUE HELO AIRSPEED IN FEET/SECOND AMPS
HELO(1) HELO HEADING IN RADIANS AMPS
HELO(2) COSINE OF HELO HEADING AMPS
HELO(3) SINE OF HELO HEADING AMPS
VL SONO LAUNCHER SPEED IN FEET PER SECOND AMPS

DDC DEVICE DRAG COEFFICIENT IN FEET SQRD/LP
HELO(15) LAUNCH ALTITUDE IN FEET
C1-C9 EQN CONSTANTS

WIND(2) WIND SPEED IN KNOTS GFS
WIND(1) WIND DIRECTION IN ANGULAR DEGREES GFS
HELO(13) HELO LAUNCH COORDINATES IN FEET
HELO(14)

CODING HISTORY

1. PROGRAMMED J. MANGES 11/29/77

END OF ABSTRACT

SUBROUTINE SPLASH
DIMENSION DRAG(10)

COMMON/SIMULAT/IRTBUFF(50,13),LWINET(13),NMOUTRT(13),IXFFFF(3),
*IATOTOG(1),IATON(4),IADIRP(103),LUPBLK(270),IDAW(2),HELO(24),
*WIND(2),TIME,BUOYIC(2,25),BUOYRW(10,32),ISELBY,
*TOPPED(3,2),ITOPNS,NIORPS,I3FUL(13),IBFUL2(13)

COMMON/MODULE/IR,TERPOT,IRYSTAC,IOLDPOT,IOWTWD1,IOWTWD2,IOLDDW1,
*IOLDDW2,IRITSDW,IOLDPST,ICCDH,IQSTATE,ISAWAY,
*ITAWAY,DDC,ISKIP,SBCALC,ICALC,IOWTTP,IRITP

REAL K,L
DATA C1,
/8.189E-11, 1.463128E-05, 2., 4.01096, 1.27463E-02 /
DATA C6, C7, C8, C9
/1.9663E-02, 1.91905, 4.838E-02, 3.4475E-02 /


```

DATA VL/30./
DATA ORAGF/..0033,0033,0032,0052,0052,0052,0065,0065,
1.0065,0065/
C      CHANGE WIND ANGULAR MEASUREMENT TO RADIANS
C      WDIRC=WIND(1)*.017
C      CHANGE WIND VELOCITY MEASUREMENT TO FT/SEC
C      WSPED=WIND(2)*1.69
C-----
C      SET THE VALUE OF CDC (DEVICE FRAG COEFFICIENT)
C-----
120 N=RUCVIC(1,ISELBY)
CDC=ORAGF(N)
C-----
C      RESET BITS IN THE SONORUCY INVENTORY FIELDS OF THE OLCS
C      DATA WORDS
C-----
C      IF ISELBY IS LESS THAN 10
C      IF (ISELBY.GT.9) GO TO 180
C      THEN
C      SET THE APPROPRIATE BIT IN DATA WORD 1
C      CALL SETAPIT(1,DATW01,6+ISELBY,0)
C      GO TO 190
C      ELSE
C      SET THE APPROPRIATE BIT IN DATA WORD 2
C      CALL SETAPIT(1,DATW02,ISELEV-10,0)
180 CONTINUE
190 CONTINUE
C      ENDIF
C-----
C      SET "IN WATER" FLAG FOR THE LAUNCHED BUOY
C-----
BUOYRM(4,ISELBY)=1.
C-----
C      RESET LAUNCH INDICATOR BIT IN DATA WORD ONE
C-----
C      CALL SETAPIT(1,DATW01,2,0)
C-----
C      CALCULATE VS-THE RELEASE TRUE AIRSPEED IN FEET/SEC
C-----
200 VS=SQRT(HELO(21)*HELO(21)+VL*VL)
C-----
C      CALCULATE K THE DRAG FACTOR
C      L ARMS SPASH POINT IN FEET
C      T ARMS TIME OF FLIGHT
C-----
K=DOC*(1.0+(C1*HELO(15)-C2)*HELO(15))
L=VS*(C3+(SQRT(HELO(15)))/(C4+(C5*VS*SQRT(HELO(15))+C6*HELO(15))*K
*)))
T=C3+(1.+(1./(C7+C8*HELO(15))*K1))*C9*HELO(15)*SQRT(K1)
C-----
C      CALCULATE THE SONORUCY SPLASH POINT COORDINATES (GPS)
C-----
BUOYRM(2,ISELBY)=HELO(13)*((L/VS)*(HELO(21)*HELO(3)-VL*HELO(2)))*T*
* WSPED*SIN(WDIRC)
BUOYRM(3,ISELBY)=HELO(14)*((L/VS)*(HELO(21)*HELO(2)+VL*HELO(3))+T*
* WSPED*COS(WDIRC))
C-----

```

OLCS 1179

OLCS 1179

OLCS 1180

OLCS 1181

OLCS 1182

OLCS 1183

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OLCS 1189

OLCS 1190

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OLCS 1199

OLCS 1200

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OLCS 1232

SUBROUTINE SPLASH

RETURN
END

CNC 6600 FIN V7.0-0780 OPT=1 7/8/06/12. 15.14.02.

CLCS 1233
CLCS 1234

PAGE

3

SUBROUTINE SPLASH

VARIABLES SN TYPE RELOCATION
1227 NMCUTRY INTEGER
20 SRCALC REAL
147 T REAL
21 TCALC REAL
2077 TIME REAL
2663 TORPED REAL
134 VL REAL
146 VS REAL
143 WDIRC REAL
2075 WIND REAL
144 WSPED REAL

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107 109
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EXTERNALS TYPE ARGS REFERENCES
COS REAL 1 LIBRARY 109
SETABIT REAL 3 76
SIN REAL 1 LIBRARY 107
SORT REAL 1 LIBRARY 94

STATEMENT LABELS
0 120 INACTIVE 56
20 180 80
24 190 81
0 200 INACTIVE 94

COMMON BLOCKS LENGTH
SIMULAT 1493
MODULE 20
MEMBERS - RIAS NAME(LENGTH)
0 ITCBUFF(650)
676 ITCBUFF(3)
686 ITCBUFF(103)
1061 HPLC(24)
1088 BUCVIC(50)
1459 TORPED(6)
1467 ITCBUFF(13)
0 IB(1)
3 ITCBUFF(1)
6 ITCBUFF(1)
9 ITCBUFF(1)
12 ITCBUFF(1)
15 ITCBUFF(1)
18 ITCBUFF(1)

650 LWINRY (13)
679 IATOTOG(13)
789 LUPALK (270)
1085 WIND (2)
1138 BUCVIC (320)
1465 ITCBUFF (1)
1480 ITCBUFF (13)
1 ITCBUFF (1)
4 ITCBUFF (1)
7 ITCBUFF (1)
10 ITCBUFF (1)
13 ITCBUFF (1)
16 ITCBUFF (1)
19 ITCBUFF (1)

687 NMCUTRY (13)
682 ITCBUFF (1)
1059 ITCBUFF (12)
1087 ITCBUFF (1)
1458 ITCBUFF (1)
1466 ITCBUFF (1)
2 ITCBUFF (1)
5 ITCBUFF (1)
8 ITCBUFF (1)
11 ITCBUFF (1)
14 ITCBUFF (1)
17 ITCBUFF (1)

STATISTICS
PROGRAM LENGTH 1629
COMMON LENGTH 27518

[illegible]

```

1283 C IF(IANSWER.EQ.0) GO TO 180
1284 C THEN
1285 C SET THE VALUE OF ISELBY
1286 C ISELBY=I-6
1287 C ELSE
1288 C CONTINUE LOOKING AT UNITS CHUTES BITS
1289 C CONTINUE
1290 C ENDIF
1291 C
1292 C CONTINUE
1293 C ENDIF
1294 C CHECK THE TENS CHUTE BIT
1295 C CALL READBIT(IATOTOG(1),5,IANSWER)
1296 C IF TENS CHUTE BIT IS ON
1297 C IF(IANSWER.EQ.0) GO TO 200
1298 C THEN
1299 C INCREMENT THE VALUE OF ISELBY BY TEN
1300 C ISELBY=ISELBY+10
1301 C GO TO 201
1302 C ELSE
1303 C LEAVE VALUE OF ISELBY BETWEEN 0 AND 9
1304 C CONTINUE
1305 C ENDIF
1306 C GO TO 240
1307 C ELSE
1308 C SKIP MANUAL SELECTION THIS CYCLE AS HAVE RECEIVED AUTO
1309 C SELECTION FROM SUBROUTINE CONTROL
1310 C RESET ISKIP FLAG
1311 C ISKIP=0
1312 C CONTINUE
1313 C ENDIF
1314 C MAKE SURE TORPEDO LAUNCH BIT IS ZERO
1315 C CALL SETBIT(IDATWC1,4,0)
1316 C CHECK MASTER ARM STATUS
1317 C
1318 C CALL READBIT(IATOTOG(2),2,IANSWER)
1319 C IF MASTER ARM IS ON
1320 C IF(IANSWER.EQ.0) GO TO 350
1321 C THEN
1322 C
1323 C CHECK TORPEDO ARM STATUS
1324 C
1325 C IF TORPEDO ARM IS ON
1326 C CALL READBIT(IATOTOG(1),3,IANSWER)
1327 C IF(IANSWER.EQ.0) GO TO 330
1328 C THEN
1329 C
1330 C CHECK FOR A TORPEDO MANUAL LAUNCH COMMAND
1331 C (TRANSITION FROM OFF TO ON OF IATOTOG(1), BIT 2)
1332 C
1333 C CALL READBIT(IATOTOG(1),2,IANSWER)
1334 C IUPS=AND(IANSWER,COMPL(ITOPP))
1335 C ITOPP=IANSWER
1336 C IF IUPS NOT EQUAL TO ZERO
1337 C IF(IUPS.EQ.0) GO TO 250
1338 C

```

```

115 C      THEN
116 C      INCREMENT THE TORPEDO COUNTER
117 C      TORPEDS=TORPEDS+1
118 C      IF HAVE NOT ALREADY FIRED BOTH TORPEDOES
119 C      IF (TORPEDS.GT.2) GO TO 50
120 C      THEN
121 C      SET TORPEDO CALCULATIONS NECESSARY FLAG
122 C      TORCALC=1.
123 C      SET THE TORPEDO LAUNCH BIT IN DATA WORD ONE
124 C      CALL SETBIT(IORATWC1,4,1)
125 C      SET TORPEDO AWAY SIGNAL COUNTER
126 C      ITAWAY=10
127 C      GO TO 250
128 C      ELSE
129 C      HAVE FIRED BOTH TORPEDOES THIS RUN
130 C      CONTINUE
131 C      ENDIF
132 C      ELSE
133 C      NO CALCULATION NECESSARY SO PROCEED
134 C      CONTINUE
135 C      ENDIF
136 C      ELSE
137 C      TORPEDO ARM NOT ACTIVATED SO NO TORPEDO LAUNCH
138 C      CONTINUE
139 C      ENDIF
140 C      CHECK FOR A SONORBUOY MANUAL LAUNCH COMMAND
141 C      -----
142 C      CALL READINITIATOR(1),13,IANSWER)
143 C      IF IANSWER.EQUALS.ONF
144 C      IF (IANSWER.NE.1.0) GO TO 300
145 C      THEN
146 C      SET SONORBUOY CALCULATIONS NECESSARY FLAG
147 C      SONCALC=1.
148 C      SET SONORBUOY LAUNCH INDICATOR IN DATA WORD 2
149 C      CALL SETBIT(IORATWC1,2,1)
150 C      INITIALIZE SONORBUOY AWAY SIGNAL COUNTER
151 C      ISAWAY=10
152 C      GO TO 300
153 C      ELSE
154 C      NO CALCULATION NECESSARY SO PROCEED
155 C      CONTINUE
156 C      ENDIF
157 C      ELSE
158 C      MASTER ARM NOT ACTIVATED SO NO SONORBUOY OR TORPEDO LAUNCH
159 C      CONTINUE
160 C      ENDIF
161 C      RETURN
162 C      END

```


SUBROUTINE UDCASP

EXTERNALS	TYPE	ARGS	REFERENCES	40	54	67	91	99	106	119
READBIT		3	32		42	87	120	146		
SETABIT		3	35							

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
AND	NO TYPE	2	INTRIN	107
COMPL	NO TYPE	1	INTRIN	107

STATEMENT LABELS

73 50	DEF LINE	REFERENCES
32 180	115	
0 190	56	
42 200	57	73
43 230	64	
44 240	76	
73 250	83	
105 300	84	
73 330	130	127
105 350	152	146
	134	
	156	93

LOOPS LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES	EXT REFS
23 190	* I	53 64	128		

COMMON BLOCKS

MEMBERS -	RTAS NAME(LENGTH)
0	IRTAUFF(650)
676	TXPRERR(3)
686	IOADTPP(123)
1061	HELIC (24)
1088	RUOYIC (50)
1459	TORPEC (6)
1467	IBFULL (13)
0	IB (1)
3	IOLCRT (1)
6	IOLODM (1)
9	IOLCBSW (1)
12	ISAKAY (1)
15	ISKIP (1)
18	IDAYTR (1)

650	LWINRT (13)
679	IATOTOG (2)
789	LUPBLK (270)
1085	WIND (2)
1138	BUOYEM (320)
1465	ITORDS (1)
1480	IRFUL2 (13)
1	IFRZOR (1)
4	IRATW01 (1)
7	ICLADW2 (1)
10	ICCOM (1)
13	ITAWAY (1)
16	SRCALC (1)
19	IRTP0 (1)

683	NWOUTPT (13)
682	IATCH (14)
1059	YCAW (12)
1087	TIME (1)
1458	ISELBY (1)
1466	NIOEPS (1)
2	IFYSTW01 (1)
5	IOATW02 (1)
8	IRITSW0 (1)
11	ICSTATE (1)
14	DOC (1)
17	TCALC (1)

STATISTICS

PROGRAM LENGTH	2068	134
COMMON LENGTH	27510	1513

LINE	TEXT	ADDRESS
1	SUBROUTINE TSPASH	1387
2		1388
3		1389
4	ABSTRACT	1390
5	THIS SUBROUTINE CALCULATES TORPEDO SPLASH POINTS FOR THE	1391
6	CLCS SUBROUTINE. EQUATIONS USED IN THIS ROUTINE ARE TAKEN	1392
7	FROM APPENDIX D OF THE PROGRAM PERFORMANCE SPECIFICATION	1393
8	FOR LAMPS MK III AVIONICS OPERATIONAL PROGRAM.	1394
9		1395
10		1396
11		1397
12		1398
13		1399
14		1400
15	TABLE OF VARIABLES	1401
16		1402
17		1403
18		1404
19		1405
20		1406
21		1407
22		1408
23		1409
24		1410
25		1411
26		1412
27		1413
28		1414
29		1415
30		1416
31		1417
32		1418
33		1419
34		1420
35		1421
36		1422
37		1423
38	SUBROUTINE TSPASH	1424
39		1425
40	COMMON/SIMULAT,IRTBUFF(50,13),LWINRT(13),NWOUPRT(13),IXFERFR(3),	1426
41	*IATOTOG(2),IATOM(4),IADOPRT(103),LUPRLK(270),IDAN(2),HELO(24),	1427
42	*WIND(2),TIME,BUOYIC(2,25),BUOYPRM(10,32),ISELPR,	1428
43	*TOPED(3,2),ITORDS,NTORPS,ISFUL(13),ISFUL2(13)	1429
44		1430
45	COMMON/MODULE1A,IERPCP,IRISINC,IOLDPI,IOWTWO1,IOWTWO2,IOLDOH1,	1431
46	*IOLDOH2,IRISNO,IOLDSW,IOWSW,IOWTWO1,IOWTWO2,IOWTWO3,	1432
47	*ITANAY,DDC,ISKIP,SRCALC,TCALC,IOATVR,IRTFP	1433
48	REAL X,L	1434
49	DATA TDCG/.00177/	1435
50	DATA VL/0/	1436
51	DATA C1,C2,C3,C4,C5	1437
52	* /9.189E-11, 1.463128E-05, 2., 4.01086, 1.27463E-02 /	1438
53	DATA C6,C7,C8	1439
54	* /1.9563E-02, 1.91905, 4.938E-02, 3.4475E-02 /	1440
55	CHANGE WIND MEASUREMENT TO RADIANS	1441
56	WDIRSEC=WIND(1)*.017	1442

```

C      CHANGE WIND SPEED MEASUREMENT TO FT/SEC
      WSPEED=WINO(2)*1.69
C-----
C      CALCULATE VS-THE RELEASE TRUE AIRSPEED IN FEET/SEC
C-----
C      VS=SQRT(HELO(21)*HELO(21)+VL*VL)
C-----
C      CALCULATE K THE DRAG FACTOR
C      L ARMS SPLASH POINT IN FEET
C      T TIME OF FLIGHT
C-----
      K=1000*(1.0+0.1*HELO(3)-0.21*HELO(21))
      L=VS*(C1+SQRT(HELO(3)))/(C4+(C5*VS*SQRT(HELO(3))+C6*HELO(21)*K))
      T=((1.0+1.0/(C7+C8*HELO(3)*5))*C9*HELO(3)*SQRT(K))+C3
C-----
C      CALCULATE THE TORPEDO SPLASH POINT COORDINATES
C-----
      TORPED(1,NTORPS)=HELO(3)*(L/VS)*(HELO(21)*HELO(3)-VL*HELO(21))+T*
      *WSPEED*SIN(WDIRP)
      TORPED(2,NTORPS)=HELO(4)+(L/VS)*(HELO(21)*HELO(2)+VL*HELO(3))+T*
      *WSPEED*COS(WDIRP)
C-----
C      SET TORPEDO SYMBOL ACTIVE FLAG
C-----
      IYOROS=OR(IYOROS,13)
      RETURN
      END

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SYMBOLIC REFERENCE MAP

[illegible]

COP 6600 TYN V3.0-J-P380 OPT=1 78/06/12. 15.14.02.

SUBROUTINE TSFLASH

VARIABLES	SN	TYPE	RELOCATION	MODULE	REFS
21 TCALC	44	REAL	DEFINED	48	
71 TDOC	67	REAL			
2077 TIME	39	REAL			
2663 TOPPED	39	REAL	DEFINED	73	75
72 VL	2*61	REAL			DEFINED 49
114 VS	2*68	REAL			DEFINED 61
112 WDIRC	73	REAL	73	75	
2075 WIND	73	REAL	75	DEFINED	55
113 WSPEED	39	REAL	55	57	
	73	REAL	75	DEFINED	57

EXTERNALS	TYPE	ARGS	REFERENCES
COS	REAL	1 LIBRARY	75
SIN	REAL	1 LIBRARY	73
SORT	REAL	1 LIBRARY	61

INLINE FUNCTIONS	TYPE	ARGS	DEF LINE	REFERENCES
OR	NO TYPE	2	INTPIN	80

COMMON BLOCKS	LENGTH	MEMBERS - BY NAME(LENGTH)
SIMULAT	1493	0 IRTBUFF(650)

MODULE	LENGTH	MEMBERS
650 LWINT	(13)	653 NKOUTPT(13)
679 IATOTCG	(3)	682 IATON (4)
789 LUPOLK	(270)	1059 IDAK (2)
1085 WIND	(2)	1087 TIME (1)
1138 RUCYPM	(320)	1453 TSFLAY (1)
1465 ITOPDS	(1)	1466 NTOFES (1)
1480 IPFUL2	(13)	
1 IPFCPS	(1)	2 TSISIN(1)
4 IOATWD1	(1)	5 ICATWC2(1)
7 IOLOM2	(1)	8 IBISKO(1)
10 ICCDW	(1)	11 ICSTATE(1)
13 ITAWAY	(1)	14 DDC (1)
16 SBGALO	(1)	17 TCALC (1)
19 IRVTR	(1)	

STATISTICS	PROGRAM LENGTH	COMMON LENGTH
	1168	78
	27518	1513

SUBROUTINE WFI

CDC 6600 FIM V3.0-0140 OPT=1 7/10/12. 15.14.02.

PAGE

7

VARIABLES SN TYPE
2077 TIME REAL
2063 TOPPED REAL
2075 WIND REAL

RELOCATION
ARRAY SIMULAT
ARRAY SIMULAT
REFS
REFS
REFS

49

27
27
27

EXTERNALS TYPE ARCS REFERENCES

1 LIBRARY 49

COMMON BLOCKS LENGTH
SIMULAT 1493

MEMBERS - PIAS NAME(LENGTH)

0 IRTDIFF(650)
676 IXPREFP(3)
686 INACTFP(103)
1061 HELC (24)
1098 BUOYIC (50)
1459 FORPEP (6)
1467 IREFUL1 (13)
0 IB (1)
3 IOLDRY (1)
6 IOLDRM1(1)
9 IOLDRSW(1)
12 ISAKAY (1)
15 ISKIP (1)
18 IDATTP (1)

650 LWINST (13)
679 IATOTOG(3)
789 LUPRLK (270)
1085 WIND (2)
1136 RUCYPM (320)
1465 ITODDS (1)
1480 IREFUL2 (13)
1 IREFPCE (1)
4 IDATM01(1)
7 IOLDRM2(1)
10 ICCOW (1)
13 ITAWAY (1)
16 SBALC (1)
19 IRTYR (1)

663 NKOUTPY(13)
682 IATCM (4)
1059 ICAN (12)
1087 TIME (1)
1458 TSELBY (1)
1466 NTODPS (1)
2 YPSTSYWC(1)
5 IDATM02(1)
8 YPITISW(1)
11 ICSTATE(1)
14 TTC (1)
17 TCALC (1)

MODULE 20

STATISTICS

PROGRAM LENGTH 378
COMMON LENGTH 27518

31
1513

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
1 TWFT 12 7A

VARIABLES	SN	TYPE	RELOCATION
2100 BUOYIC	REAL	ARRAY	SIMULAT
2162 BUOYRM	REAL	ARRAY	SIMULAT
23 C1	REAL		
24 C2	REAL		
25 C3	REAL		
26 C4	* REAL		
27 C5	* REAL		
30 C6	* REAL		
31 C7	REAL		
32 C8	REAL		
33 C9	REAL		
16 DDC	REAL		
2045 HELO	REAL	ARRAY	SIMULAT
1252 IATOM	INTEGER	ARRAY	SIMULAT
1247 IATOTCG	INTEGER	ARRAY	SIMULAT
19	INTEGER	MODULE	
2673 YBFUL1	INTEGER	ARRAY	SIMULAT
2710 YBFUL2	INTEGER	ARRAY	SIMULAT
10 IBITSMD	INTEGER	MODULE	
12 ICCOW	INTEGER	MODULE	
22 IDATIR	INTEGER	MODULE	
4 IGATK01	INTEGER	MODULE	
5 IGATW02	INTEGER	MODULE	
2043 IGAW	INTEGER	ARRAY	SIMULAT
1 IEPRCP	INTEGER	MODULE	
1256 IOADTPP	INTEGER	ARRAY	SIMULAT
11 IOLOBSW	INTEGER	MODULE	
6 IOLOOW1	INTEGER	MODULE	
7 IOLOOW2	INTEGER	MODULE	
3 IOLORT	INTEGER	MODULE	
13 IOSTATE	INTEGER	MODULE	
0 IPYBUFF	INTEGER	ARRAY	SIMULAT
2 IRISTWD	INTEGER	MODULE	
23 IPTIR	INTEGER	MODULE	
14 ISAWAY	INTEGER	MODULE	
2662 ISELRY	INTEGER	MODULE	
17 ISKIP	INTEGER	MODULE	
15 ITAWAY	INTEGER	MODULE	
2671 ITORDS	INTEGER	MODULE	
1244 IXFRERR	INTEGER	ARRAY	SIMULAT
36 K	REAL		
1425 LUPBLK	INTEGER	ARRAY	SIMULAT
1212 LWINPT	INTEGER	ARRAY	SIMULAT
2672 NTORPS	INTEGER	ARRAY	SIMULAT
1227 NWOUTPT	INTEGER	ARRAY	SIMULAT
20 SBCALC	REAL		
37 T	REAL		
21 TCALC	REAL	MODULE	

14	REFS		
14	REFS		
32	REFS	23	DEFINED
32	REFS	23	DEFINED
33	REFS	23	DEFINED
23	REFS		
25	REFS	25	DEFINED
33	REFS	25	DEFINED
33	REFS	25	DEFINED
33	REFS	25	DEFINED
19	REFS	2*32	2*33
14	REFS		
14	REFS		
14	REFS		
14	REFS		
14	REFS		
14	REFS		
19	REFS		
19	REFS		
19	REFS		
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19	REFS		
14	REFS		
14	REFS		
19	REFS		
19	REFS		
19	REFS		
14	REFS		
14	REFS		
22	REFS	2*33	DEFINED
14	REFS		
14	REFS		
14	REFS	37	
14	REFS		
14	REFS		
19	REFS		
19	REFS	33	DEFINED
19	REFS		

VARIABLES SN TYPE
 34 TODC REAL
 2077 TIME REAL
 2663 TORPED REAL
 2075 WIND REAL

EXTERNALS TYPE
 SORT REAL

COMMON BLOCKS LENGTH
 SIMULAT 1493

RELOCATION
 ARRAY SIMULAT
 ARRAY SIMULAT
 ARRAY SIMULAT

REFS
 REFS
 REFS
 REFS

32 DEFINED 27
 14 37
 14 DEFINED
 14

ARGS REFERENCES
 1 LIBRARY 33

MEMBERS - BIAS NAME(LENGTH)
 0 IRTBUFF(650)

676 IXPERR(3)
 686 IOACTFP(103)
 1061 HELC (24)
 1088 BUOYIC (50)
 1459 TORPED (6)
 1467 IBFUL1 (13)
 0 IS
 3 IOLCPT (1)
 6 IOLCOM(1)
 9 IOLGCSW(1)
 12 ISAWAY (1)
 15 ISKIP (1)
 18 IDATTE (1)

663 LWINGT (13)
 679 IATOTOG(3)
 789 LUFPLK (270)
 1065 WIND (2)
 1138 PUOYAW (320)
 1465 IYODPS (1)
 1480 IBFUL2 (13)
 1 IERPOR (1)
 4 ICATWCI(1)
 7 IOLDOV2(1)
 10 ICCW (1)
 13 ITAWAY (1)
 16 SBALC (1)
 19 IRYTR (1)

MODULE 20

2 IRTSIKCI(1)
 5 ICATWCI(211)
 8 IRTSWCI(1)
 11 IOSTATE(1)
 14 OCC (1)
 17 TCALC (1)

STATISTICS

PROGRAM LENGTH 403 32
 COMMON LENGTH 27518 1513

1579	SOLCS
1578	SOLCS
1577	SOLCS
1576	SOLCS
1575	SOLCS
1574	SOLCS
1573	SOLCS
1572	SOLCS
1571	SOLCS
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1567	SOLCS
1566	SOLCS
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1387	SOLCS
1386	SOLCS
1385	SOLCS</

CDC 6000 P/N V3.0-0-80 OPT=1 78/36/12. 15.14.02.

SUBROUTINE CONTROL

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60      C      ELSE
          C      NO LAUNCH AS MASTER ARM IS NOT ON
          C      CONTINUE
          C      ENDIF
          C      ELSE
          C      NO CALCULATION NECESSARY SO PROCEED
          C      CONTINUE
          C      ENDIF
          C      RETURN
          C      END

65      OLCS 1586
          OLCS 1587
          OLCS 1588
          OLCS 1589
          OLCS 1590
          OLCS 1591
          OLCS 1592
          OLCS 1593
          OLCS 1594
          OLCS 1595
    
```

SYMBOLIC REFERENCE MAP

ENTRY POINTS DEF LINE REFERENCES
1 CONTROL 12 64

VARIABLES SN TYPE RELOCATION

2100	BUOYIC	REAL	ARRAY	SIMULAT	REFS	14
2162	BUOYRN	REAL	ARRAY	SIMULAT	REFS	14
16	DOC	REAL		MODULE	REFS	19
2045	HELO	REAL	ARRAY	SIMULAT	REFS	14
44	IACFLD	INTEGER			REFS	42
45	IANSWER	INTEGER			REFS	47
43	IASCFLD	INTEGER			REFS	2*27
1252	IATOM	INTEGER	ARRAY	SIMULAT	REFS	14
1247	IATOTOG	INTEGER	ARRAY	SIMULAT	REFS	14
0	IB	INTEGER		MODULE	REFS	19
2673	IBFUL1	INTEGER	ARRAY	SIMULAT	REFS	14
2710	IRFUL2	INTEGER	ARRAY	SIMULAT	REFS	14
10	IBITSWD	INTEGER	ARRAY	SIMULAT	REFS	14
12	ICCDW	INTEGER		MODULE	REFS	19
22	IDATIR	INTEGER		MODULE	REFS	19
4	IDATWD1	INTEGER		MODULE	REFS	19
5	IDATWD2	INTEGER		MODULE	REFS	19
2043	IDAM	INTEGER	ARRAY	SIMULAT	REFS	14
1	IFERRR	INTEGER		MODULE	REFS	19
1256	ICADTPP	INTEGER	ARRAY	SIMULAT	REFS	14
11	IOLOBSW	INTEGER		MODULE	REFS	19
6	IOLODM1	INTEGER		MODULE	REFS	19
7	IOLODM2	INTEGER		MODULE	REFS	19
3	IOLODM2	INTEGER		MODULE	REFS	19
13	IRSTATE	INTEGER		MODULE	REFS	19
0	IRYBUFF	INTEGER	ARRAY	SIMULAT	REFS	14
2	IRYSTWD	INTEGER		MODULE	REFS	19
23	IRTR	INTEGER		MODULE	REFS	19
14	ISAWAY	INTEGER		MODULE	REFS	19
2662	ISELRY	INTEGER		MODULE	REFS	19
17	ISKIP	INTEGER		MODULE	REFS	14
15	ITAWAY	INTEGER		MODULE	REFS	19
2671	ITORDS	INTEGER		SIMULAT	REFS	14
1244	IXFREPR	INTEGER	ARRAY	SIMULAT	REFS	14
1425	LUPRLK	INTEGER	ARRAY	SIMULAT	REFS	14
1212	LWINRT	INTEGER	ARRAY	SIMULAT	REFS	14
2672	NTORPS	INTEGER		SIMULAT	REFS	14
1227	NMOUTPT	INTEGER	ARRAY	SIMULAT	REFS	14
20	SBCALC	REAL		MODULE	REFS	19
21	TCALC	REAL		MODULE	REFS	19
2077	TIME	REAL		SIMULAT	REFS	14
2663	TORPED	REAL	ARRAY	SIMULAT	REFS	14
2075	WIND	REAL	ARRAY	SIMULAT	REFS	14

EXTERNALS TYPE ARGS REFERENCES
READBIT 3 45
SETABIT 3 52

SUBROUTINE CONTROL

COP 6600 SYN V3.0-PR80 COT=1 7/10/12. 15.14.02.

PAGE

4

INLINE FUNCTIONS AND SHIFT	NO TYPE	TYPE	ARGS	INTIN	DEF LINE	REFERENCES
			2	INTIN		25
			2	INTRIN		25

40

STATEMENT LABELS

	DEF LINE	REFERENCES
12 10	35	27
27 15	58	47
27 20	62	42

COMMON BLOCKS LENGTH

MEMBERS - BIAS NAME(LENGTH)

0 IRTBFF(650)

676 IXFRER(3)

696 IOAGTP(103)

1061 HELC(24)

1082 PUOVIC(50)

1459 TORPED(6)

1467 IAFUL1(13)

0 IB(1)

3 IOLODT(1)

6 IOLODM(1)

9 IOLODSW(1)

12 ISAWAY(1)

15 ISKIP(1)

18 IOATIR(1)

650 LWINOT(13)

679 TATOTOG(3)

789 LUPRLK(270)

1085 WTN(2)

1138 BUCYRW(320)

1465 YTOPRS(1)

1480 IFFUL2(13)

1 IFFROP(1)

4 IOATWD1(1)

7 IOLOK2(1)

10 ICCDW(1)

13 ITAWAY(1)

16 SPALC(1)

19 IRTYR(1)

663 NACUTPT(13)

682 IATCM(4)

1059 IDAW(2)

1087 YIPE(1)

1458 ISFLSV(1)

1466 NTOPRS(1)

2 IOISTW(1)

5 IOATWD2(1)

8 IOITSK(1)

11 IOSTATF(1)

14 OCC(1)

17 YCALC(1)

STATISTICS

PROGRAM LENGTH	468	38
COMMON LENGTH	27518	1513

1644	OLDS								
1645	OLDS								
1646	OLDS								
1647	OLDS								
1648	OLDS								
1649	OLDS								
1650	OLDS								
1651	OLDS								
1652	OLDS								
1653	OLDS								
1654	OLDS								
1655	OLDS								
1656	OLDS								
1657	OLDS								
1658	OLDS								
1659	OLDS								
1660	OLDS								
1661	OLDS								
1662	OLDS								
1663	OLDS								

STATEMENT LABELS

DEF LINE	REFERENCES
66	59
71	53
72	68

COMMON BLOCKS LENGTH 1493
SIMULAT

MEMBERS - BIAS NAME(LENGTH)

676	IRTBUFF(650)	650	LWINDY (13)	653	NKOUTPT(13)
686	IOACTTP(103)	679	IATOTOG(13)	682	IATCH (14)
1061	HELC (24)	729	LUPBLK (270)	1059	IDAW (2)
1088	BUOYIC (50)	1085	WING (2)	1097	TIME (1)
1459	TORPED (6)	1138	BUOYPM (320)	1458	ISCLBY (1)
1467	IBFUL1 (13)	1465	ITOPDS (1)	1466	NTOCES (1)
0	IS (1)	1480	IBFUL2 (13)		
3	IOLCQT (1)	1	IPRSCP (1)	2	IP1STWD(1)
6	IOLCOK1(1)	4	IDATWD1(1)	5	IDATWD2(1)
9	ICLCPSW(1)	7	IOLDDW2(1)	8	IP1TSWD(1)
12	ISAWAY (1)	10	IOLCOW (1)	11	ICSTATE(1)
15	ISKIP (1)	13	ITAWAY (1)	14	DCC (1)
18	IDATIR (1)	16	SBCALC (1)	17	TOTALC (1)

MODULE 20

STATISTICS

PROGRAM LENGTH	598	45
COMMON LENGTH	27518	1513

INPUT/OUTPUT EXECUTIVE AND DATA COLLECTION MODULE

(IOEXEC)

CDC 6600 FTN V3.0-P380 OPT=1 78/06/14. 13.53.30.

000890
000900

IOXDRV

PROGRAM

12(* INPTI(*I2*) = *I5/))

*

END

SYMBOLIC REFERENCE MAP

ENTRY POINTS	DEF LINE	REFERENCES			
2025 IOXDRV	I				
VARIABLES	SN	TYPE	RELOCATION	REFS	
2202 DMC		INTEGER	ARRAY	2	41
2155 I		INTEGER		3*41	23
				40	2*45
				5	45
1435 IAYKRUF		INTEGER	ARRAY	10	11
0 IBFUL1		INTEGER	ARRAY	10	
15 IBFUL2		INTEGER	ARRAY	10	
2244 ICWWD		INTEGER	ARRAY	9	
2006 IDCBMX		INTEGER	*UNDEF	3	
2007 IDCERR		INTEGER	DCCOM	3	
3 IDWC		INTEGER	DCCOM	8	
2253 IDWCWDS		INTEGER	IOXCHDW	9	
2002 INB		INTEGER	DCCOM	3	
2000 INBWD		INTEGER	DCCOM	3	
5436 INPTRT		INTEGER	IOXCHDW	5	35
2010 IOADTPP		INTEGER	ARRAY	3	35
2003 IOUTB		INTEGER	ARRAY	3	11
0 IP		INTEGER	DCCOM	3	
2125 IPBUEFMX *		INTEGER	IOXCHDW	5	
5453 IRT		INTEGER	IOXCHDW	12	
0 IRTADD		INTEGER	IOXCHDW	5	
2126 IRTBFMX *		INTEGER	IOXCHDW	8	
35 IRTBUFF		INTEGER	IOXCHDW	12	
5454 IRTMMTB		INTEGER	ARRAY	5	11
2 ISAM		INTEGER	ARRAY	5	
1 ITR		INTEGER	IOXCHDW	8	
2156 J		INTEGER	IOXCHDW	2*44	50
0 JARUFF		INTEGER	ARRAY	3	
5452 LWINPP		INTEGER	DCCOM	5	
5435 LWOIOX		INTEGER	IOXCHDW	5	44
2004 NBSIZ		INTEGER	IOXCHDW	5	50
2005 NBUFFWD		INTEGER	DCCOM	3	
1 NRT		INTEGER	IOXCHDW	3	
7454 NRTADD		INTEGER	IOXCHDW	5	
2157 RTADD		INTEGER	IOXCHDW	5	
2173 SAM		INTEGER	ARRAY	2	15
2242 TR		INTEGER	ARRAY	2	41

FILE NAMES	MODE	WRITES	REFERENCES	DEF LINE	REFERENCES
0 OUTPUT	FMT			41	40
EXTERNALS	TYPE	ARGS	REFERENCES	52	36
IOEXEC		0	43	53	42
STATEMENT LABELS				54	44
0 10	FMT				50
2127 10000	FMT				
2131 10001	FMT				
2137 10002	FMT				

PROGRAM IOXDRV

STATEMENT LABELS
2145 10003 FMT

DEF LINE REFERENCES
55 45

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES	EXT REFS
2036	10	I	40 41	2B	INSTACK	
2052		* J	44	10B		EXT REFS
2072		* I	45	7H		EXT REFS
2111		* J	50	10B		EXT REFS

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

DCCOM	1253	0 JABUFF (1024)	1026 INB (1)
		1027 LGUTH (1)	1029 NBUFFWD(1)
		1030 IDCBMAX(1)	1032 IADITPP(221)
		0 IP (1)	29 IRTBUFF(768)
		797 IAYKBUF(2048)	2846 INPIRT (12)
		2858 LWINPP (1)	2860 IRTMTB(1024)
		3884 NRIADD (12)	
		0 IRTADD (1)	
		3 IDWC (1)	
		0 IBFUL1 (13)	

IOXCOMM 3896

IOXCHOW 4

BUFLAS 26

STATISTICS

PROGRAM LENGTH	274B	188
BUFFER LENGTH	2022B	1042
COMMON LENGTH	12073B	5179

1024 INRWD (2)	1 ITR (1)	2 ISAM (1)
1028 NRSIZ (1)		
1031 IDCERR (1)		
1 NRT (28)		
2845 LWIOIX (1)		
2859 IRT (1)		
	13 IBFUL2 (13)	


```
5      SUBROUTINE CLRBUF
      COMMON /DCCOM/JABUFF(64,8,2),IN3WD(2),INH,IOUTB,NBSIZ,NBUFFWD,
      *      IUCBMAX,IDCENR,IOADTTP(21)
      COMMON /IOXCOMM/IP,NRT(28),IRIBUFF(64,12),IAYKBUF(2048),
      *      LWOIOX,INPTAT(12),LWINPP,IRT,IRTMIB(512,2),
      *      NRTADD(12)
      COMMON /IOXCHDW/ IRTADD,ITR,ISAM,IDWC
      DIMENSION ICMWD(7),IOWCWD(33)
      COMMON /BUFLAG/ IBFUL1(13),IEFUL2(13)
      DATA IP,INPTAT,LWOIOX,LWINPP,IRIBUFF,IAYKBUF/15*1,2816*0/
      DATA IPBUFMX/3777B/, IRTBFMX/77B/
      DATA NRTADD /1,4,11,19,14,7,25,13,8,16,28,2/
      DATA NRT/1,12,0,2,0,0,6,9,0,0,3,0,8,5,0,10,0,0,4,5*0,7,0,0,11/
      DO UNTIL RT INPUT BUFFERS EMPTIED
      DO 100 J=1,12
      DO 100 I=1,IRTBFMX
      IRTBUFF(I,J)=0
      100 CONTINUE
      C      END-DO
      C      DO UNTIL AYK INPUT BUFFER EMPTIED
      DO 200 I=1,IPBUFMX
      IAYKBUF(I)=0
      200 CONTINUE
      C      END-DO
      RETURN
      END
```

000910
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000340
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000360
000370
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000390
000400
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000940
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000960
000970
000980
000990
001000
001010
001020
001030
001040
001050

SUBROUTINE CLRBUF

SYMBOLIC REFERENCE MAP

[illegible]

SUBROUTINE CLRRUF

COMMON BLOCKS	LENGTH	MEMBERS - BIAS NAME(LENGTH)
IOXCMDW	4	3884 NRIADD (12)
		0 IRTADD (1)
		3 IDWC (1)
BUFLAG	26	0 IBFUL1 (13)

STATISTICS

PROGRAM LENGTH	728	58
COMMON LENGTH	120738	5179

CDC 6600 IN V3.0-P380 OPT=1 78/06/14. 1:3.53.30. PAGE

```

5      C-----
6      C SUBROUTINE IOEXEC
7      C ABSTRACT
8      C THIS ROUTINE TAKES PACKED DATA FROM THE IJU VIA THE PP
9      C PROGRAM , HANDS OFF THE PACKED DATA TO THE DATA COLL
10     C ROUTINE AND THEN UNPACKS THE DATA AND DELIVERS IT
11     C TO THE VARIOUS REMOTE TERMINAL MODULES.
12     C PROGRAM HISTORY
13     C 1. PROGRAMMED : ROBERT J. HUBER (CSC)
14     C-----
15     C IOEXEC COMMONED VARIABLES
16     C IP - POINTER TO THE NEXT WORD TO BE UNPACKED
17     C FROM IAYKBUF
18     C IRTBUFF - INPUT BUFFERS FOR THE 12 REMOTE TERMINALS
19     C DATA UNPACKED
20     C IAYKBUF - PACKED INPUT BUFFERS FROM THE AYK
21     C LWINPP - POINTER TO THE LAST WORD PUT INTO THE IAYKBUF
22     C BY THE PP PLUS ONE
23     C LWOIOX - POINTER TO THE LAST WORD REMOVED FROM
24     C IAYKBUF BY IOEXEC FOR THE RT PLUS ONE
25     C INPTRT - NEXT WORD PUT IN THE RT-S INPUT BUFFER
26     C IOPTRT - NEXT WORD TO BE REMOVED FROM RT-S INPUT BUFFER
27     C NRT - ARRAY CONTAINING THE RT ARRAY INDEXES. POSITION
28     C IN ARRAY EQUALS THE TERMINAL ADDRESS.
29     C IRTADD - THE OCTAL ADDRESS IN THE COMMAND WORD
30     C ITR - THE TRANSMIT/RECEIVE FLAG IN THE COMMAND WORD
31     C ISAMPI - THE SUBADDRESS/MODE FIELD IN THE COMMAND WORD
32     C PLUS ONE
33     C IDWC - THE DATA WORD COUNT FIELD IN THE COMMAND WORD
34     C END OF ABSTRACT
35     C-----
36     C SUBROUTINE IOEXEC
37     C COMMON /DCCOM/JARUFF(64,8,2),INBWD(2),INR,IOUTR,NBSIZ,NBUFFWD,
38     C * IDCBSMAX,IDCERR,IOADTPP(221)
39     C COMMON /IOXCOMM/IP,NRT(28),IRTBUFF(64,12),IAYKBUF(2048),
40     C * LWOIOX,INPTRT(12),LWINPP,IRT,IRTMATB(S12,2),
41     C * NRTADD(12)
42     C COMMON /IOXCHDW/ IRTADD, ITR, ISAM, IDWC
43     C DIMENSION ICMWD(7),IDWCWDS(33)
44     C COMMON /BUFLAG/ IBFUL(13),IBFUL2(13)
45     C DATA IP,INPTRT,LWOIOX,LWINPP,IRTBUFF,IAYKBUF/15*1,2816*0/
46     C DATA IPBUFMAX/377B/, IRTBFMX/77B/
47     C DATA NRTADD /1,4,11,19,14,7,25,13,8,16,28,2/
48     C DATA NRT/1,12,0,2,0,0,6,9,0,0,3,0,8,5,0,10,0,0,4,5*0,7,0,0,11/
49     C DATA IDCBSMAX/512/
50     C DATA ICMWD/1,1,2,4*1/,
51     C * IDWCWDS/0,1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9,
52     C * 10,10,10,11,11,12,12,12,13,13/,
53     C * DCSVFLG/31011323138/
54     C LWINPP=LWINPP
55     C DO UNTIL ALL RT INPUT BUFFERS HAVE BEEN SERVICED
56     C 100 IF (LWINPPS-LWOIOX)105,2000*105
57     C 105 CONTINUE
58     C IP=LWOIOX

```



```

110 CONTINUE
C      DECODE THE COMMAND WORD
      IRTADD=SHIFT(IAYKBUF(IP),9) .AND. 378
      IRT=NOT(IRTADD)
      ITR=SHIFT(IAYKBUF(IP),10) .AND. 18
      ISAM=SHIFT(IAYKBUF(IP),19) .AND. 78
      IDWC=SHIFT(IAYKBUF(IP),24) .AND. 378
      IF RT ADDRESS INVALID
      IF (IRT)112,112,114
      THEN
      SET FLAG TO BYPASS THIS DATA
      CONTINUE
      ISAM=4
      ELSE
      CONTINUE PROCESSING
      CONTINUE
      ENDIF
      IF RT DATA IS BEING SAVED
      IF (SHIFT(DCSVFLG,60-IRTADD)).AND.18 - 1)1470,1420,1470
      THEN
      DO UNTIL ALL DATA STORED IN DATA COLLECTION BUFFER
      CONTINUE
      IDWCNT=IDWCNT+IDWCWDS(IDWC+1)+IP-1
      DO 1460 I=IP,1460
      IF DATA COLLECTION INDEX LESS THAN MAX BUFFER SIZE
      IF (INBWD(INB)-IDCBMAX)1430,1440,1440
      THEN
      INCREMENT INDEX AND STORE DATA IN D.C. BUFFER
      CONTINUE
      INBWD(INB)=INBWD(INB)+1
      JABUFF(INBWD(INB),1,INB)=IAYKBUF(I)
      GO TO 1450
      ELSE
      SET ERROR FLAG
      CONTINUE
      IDCERR=1
      GO TO 1470
      CONTINUE
      ENDIF
      CONTINUE
      ENDDO
      ELSE
      DATA NOT COLLECTED FOR THIS RT
      CONTINUE
      ENDIF
      CASE OF SUBADDRESS/MODE (ISAM)
      IF (ISAM)120,130,120
      IF (ISAM-1)122,140,122
      IF (ISAM-2)124,145,124
      IF (ISAM-4)150,150,126
      IF (ISAM-5)170,160,170
      *ISAM .EQ. 0

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001320
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```

115      C      MODE/DISCRETE DATA
116      C      CONTINUE
117      C      IF CMND IS INIT TERM-INIT PROC, OR INIT SELF-TEST
118      C      IF (IDWC.NE.1).A.(IDWC.NE.3).A.(IDWC.NE.4) GO TO 132
119      C      THEN
120      C      UNPACK DATA AND INSERT INTO RT INPUT BUFFER
121      C      I=INPTR(IRT)
122      C      IRTBUF(I,IRT)=(SHIFT(IAYKBUF(IP),20).AND.177400B)
123      C      .O.(SHIFT(IAYKBUF(IP),24).AND.377B)
124      C      INCREMENT LAST-WORD-IN POINTER (INPTR)
125      C      INPTR(IRT)=1+(INPTR(IRT).AND.IRTBFX)
126      C      GO TO 134
127      C      ELSE
128      C      MODE/DISCRETE NOT PROCESSED
129      C      RESET STATUS SENT FLAG
130      C      CONTINUE
131      C      IRTFUL(IRT)=0
132      C      CONTINUE
133      C      END-IF
134      C      GO TO 200
135      C      *ISAM .EQ. 1
136      C      NORMAL DATA TRANSFER
137      C      CONTINUE
138      C      IF T/R FLAG IS R-TO-AOP TRANSFER
139      C      IF (ITR)1410,1490,1410
140      C      THEN
141      C      TRANSFER RTIS OUTPUT BUFFER TO DATA COL BUFFER
142      C      CONTINUE
143      C      IF RTDATA IS BEING SAVED
144      C      IF (SHIFT(DCSVFLG,60-IRTADD).AND.1B - 1)1160,1100,1160
145      C      THEN
146      C      DO UNTIL ALL DATA STORED IN DATA COLL BUFFER
147      C      CONTINUE
148      C      IS=17*(IRTADD-1)+1
149      C      IF=IS+(LOADTPP(15).AND.7777B)
150      C      IS=IS+1
151      C      DO 1120 I=IS,IF
152      C      IF DATA COLLECTION INDEX LESS THAN MAX BUFFER
153      C      SIZE
154      C      IF (INBWD(INB)-IDCBMAX)1110,1130,1130
155      C      THEN
156      C      INCREMENT INDEX AND STORE DATA IN D.C.
157      C      BUFFER
158      C      INBWD(INB)=INBWD(INB)+1
159      C      JABUFF(INBWD(INB),1,INR)=LOADTPP(I)
160      C      CONTINUE
161      C      ELSE
162      C      SET ERROR FLAG
163      C      CONTINUE
164      C      IDCERR=1
165      C      CONTINUE
166      C      ENDIF

```

```

1150      CONTINUE
      ENDDO
      ELSE
        DATA NOT COLLECTED FOR THIS RT
      CONTINUE
1160      ENDIF
      ELSE
        TAKE NO DATACOL ACTION
      CONTINUE
      ENDF
      J=0
      IDWCI=IDWC+1
      IN=IAYKBUF(IP)
      DO WHILE DATA IS TO BE UNPACKED
        DO144 I=1,IDWCI
          K=0
          DO WHILE A WORD IS UNPACKED
            DO143 J=1,2
              K=SHIFT(K,8).OR.(IN.AND.377B)
              J=J+1
              IF (J-5)142,141,141
                J=0
                IP=1+(IP.A.IPBUFFMX)
                IN=IAYKBUF(IP)
              CONTINUE
            END-DO
          CONTINUE
          INPRT(IRT)=1+(INPRT(IRT).A.IRTBFMX)
          IRTBUF(INPRT(IRT),IRT)=K
        CONTINUE
        END-DO
        IF (J.EQ.4) IP=1+(IP.A.IPBUFFMX)
      *ISAM .EQ.2
      INCREMENT *IP* FOR A STRAGGLING STATUS WORD
      CONTINUE
      IP=1+(IP.AND.IPBUFFMX)
      *ISAM .EQ.3
      RETRANSMIT LAST MESSAGE
      *ISAM .EQ.4
      TRANSMIT LAST COMMAND
      CONTINUE
      THESE COMMANDS NOT PROCESSED BY THE
      RT MODULES
      RESET OUTPUT BUFFER FULL (STATUS ONLY) FLAG
      IBFUL(IRT)=0
      GO TO 200
      *ISAM .EQ.5
      CONTROL COMMAND DATA TRANSFER
      CONTINUE
      UNPACK AND INSERT COMMAND WORD INTO RT-S BUFFER
      IX=INPRT(IRT)

```

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002420
002430
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002500
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225      C      *
          IRTBUFF(IX,IRT)=(SHIFT(IAYKBUF(IP),20).AND.177400B) .OR.002970
          (SHIFT(IAYKBUF(IP),24).AND.377B)
          INCREMENT LAST-WORD-IN POINTER FOR RT
          INPTRT(IRT)=1+(INPTRT(IRT).AND.IRTBFMX)
          IX=INPTRT(IRT)
          UNPACK/INSERT CONTROL COMMAND DATA WORD INTO RT-S BUFFER003020
          IRTBUFF(IX,IRT)=(SHIFT(IAYKBUF(IP),44).AND.177400B).OR.
          (SHIFT(IAYKBUF(IP),48).AND.377B)
          INCREMENT THE AYK OUTPUT BUFFER POINTER
          AROUND STRAGGLING STATUS WORD
          IP=IP+1.AND.IPBUFFMX
          GO TO 200

230      C      *
          *ISAM .EQ. 6
          MULTI-MESSAGE TRANSFER
          CONTINUE
          J=0
          IDWCI=IDWC+1
          IN=IAYKBUF(IP)
          DO WHILE DATA IS TO BE UNPACKED
          DO 178 I=1,IDWCI
            K=0
            DO WHILE A WORD IS UNPACKED
              DO 176 J=1,2
                K=SHIFT(K,8).OR.(IN.AND.377B)
                J=J+1
                IF(J-5)174,172,172
              J=0
              IP=1+(IP.A.IPBUFFMX)
              IN=IAYKBUF(IP)
              CONTINUE
            END-DO
            INPTRT(IRT)=1+(INPTRT(IRT).A.IRTBFMX)
            IRTBUFF(INPTRT(IRT),IRT)=K
            CONTINUE
          END-DO
          IF(J.EQ.4) IP=1+(IP.A.IPBUFFMX)
          CONTINUE
          ENDCASE
          INCREMENT THE AYK OUTBUFFER(IAYKBUF) POINTER
          IP=1+(IP.AND.IPBUFFMX)
          LWOIOX=IP
          GO TO 100

265      C      2000 CONTINUE
          END DO WHILE
          RETURN
          END

```


SYMBOLIC REFERENCE MAP

[illegible]

VARIABLES	SN	TYPE	RELOCATION	REFS	185	186	197	246	247	258
316 J		INTEGER		DEFINED	176	185	187	237	246	248
0 JABUFF		INTEGER	ARRAY	REFS	34	DEFINED	86	158		
322 J1		INTEGER		DEFINED	183	244				
321 K		INTEGER		REFS	184	194	245	255	DEFINED	181
5452 LWINPP		INTEGER		242	245					184
310 LWINPPS		INTEGER	IOXCOMM	REFS	36	51	DEFINED	42		
5435 LWOIOX		INTEGER	IOXCOMM	REFS	53	DEFINED	51			
2004 NBSI7		INTEGER	DCCOM	REFS	36	53	55	DEFINED	42	263
2005 NBUFFWD		INTEGER	DCCOM	REFS	34					
1 NRT		INTEGER	ARRAY	REFS	36	59	DEFINED	45		
7454 NRTADD		INTEGER	ARRAY	REFS	36	DEFINED	44			

INLINE FUNCTIONS	SHIFT	NO	TYPE	ARGS	DEF LINE	INTRIN	REFERENCES	60	61	62	74	2*120	143	184
				2			58	2*221	245					

STATEMENT LABELS	DEF LINE	REFERENCES
4 100	53	264
0 105	54	2*53
0 110	56	
0 112	67	2*64
23 114	71	64
0 120	105	2*104
0 122	106	2*105
0 124	107	2*106
0 126	108	107
67 130	112	104
107 132	128	116
111 134	130	124
112 140	136	105
0 141	187	2*186
172 142	190	186
0 143	191	183
0 144	195	180
210 145	201	106
212 150	208	2*107
214 160	217	108
236 170	236	2*108
0 172	248	2*247
262 174	251	247
0 176	252	244
0 178	256	241
300 200	259	132
0 1100	146	143
0 1110	157	153
0 1120	159	150
145 1130	162	2*153
0 1140	164	
0 1150	166	
146 1160	170	2*143
0 1410	141	2*138
0 1420	77	74

213 232

STATEMENT LABELS INACTIVE DEF LINE REFERENCES

0 1430 84 81
52 1440 90 2*81
53 1450 93 87
0 1460 95 79
55 1470 99 2*74 92
146 1490 174 138
304 2000 265 53

LOOPS LABEL INDEX FROM-TO LENGTH PROPERTIES

41 1460 * I 79 95 148 OPT
133 1120 * I 150 159 128 OPT
154 144 * I 180 195 278 NOT INNER
161 143 J1 183 191 128 OPT
244 178 * I 241 256 278 NOT INNER
251 176 J1 244 252 128 OPT

COMMON BLOCKS LENGTH MEMBERS - BIAS NAME(LENGTH)

DCCOM 1253 0 JABUFF (1024)
1027 IOUTB (1)
1030 IDC8MAX(1)
0 IP (1)
797 IAYKBUF (2048)
2858 LWINPP (1)
3884 NRTADD (12)
0 IRTADD (1)
3 IDWC (1)
0 IBFUL1 (13)
1024 INRWD (2)
1028 NBSIZ (1)
1031 IDCERR (1)
1 NRT (28)
2845 LWOIOX (1)
2859 IRT (1)
1 ITR (1)
13 IRFUL2 (13)
1026 INB (1)
1029 NEUFFWD(1)
1032 IOADIPP(221)
29 IRTBUFF(768)
2846 INPIRT (12)
2860 IRTMHTB(1024)
2 ISAM (1)

STATISTICS

PROGRAM LENGTH 3748 252
COMMON LENGTH 120738 5179